

# Rhodora

JOURNAL OF THE  
NEW ENGLAND BOTANICAL CLUB

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Conducted and published for the Club, by

MERRITT LYNDON FERNALD, Editor-in-Chief

CHARLES ALFRED WEATHERBY } Associate Editors  
LUDLOW GRISCOM }  
STUART KIMBALL HARRIS }

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## A BOTANICAL SCRAPBOOK

NICHOLAS POLUNIN

IN preparing a flora of the northernmost regions of Eastern North America, nowadays generally referred to as the "Canadian Eastern Arctic," I am attempting to gather together, revise and fully record all of the more substantial plant collections that have been made therein.<sup>1</sup> These collections are numerous and often quite extensive, having been brought back from almost all parts of the Canadian Eastern Arctic during the past century and a quarter, but with a few exceptions they have never been critically worked out, or at least have not been published upon. Indeed we have only to exclude Simmons' excellent "Flora of Ellesmereland"<sup>2</sup> and "Phytogeography,"<sup>3</sup> a recently published account of the vegetation of Akpatok Island,<sup>4</sup> and some scattered references that are diffused through other works, to say that the botanical literature of these vast tracts is

<sup>1</sup> The area concerned is difficult to define exactly, but except that it excludes Greenland, and for the present purpose also Ellesmereland (whose flora is well known) and Boothia Felix, it may be said to comprise most of the mainland of North America that lies east of Long. 95° W. and north of Lat. 60° N., and all of the islands (including the 1000-miles long Baffin Land) of the Arctic Archipelago that lie either wholly or in part within these boundaries. I should be very pleased to hear of any further collections from within this area that I have not already seen in North America or shall not be likely to see in visiting the main European herbaria.

<sup>2</sup> "The Vascular Plants in the Flora of Ellesmereland" *Report of the Second Norwegian Arctic Expedition in the 'Fram' 1898-1902*. Nr. 2: pp. 1-198. Kristiania 1906: by Herman G. Simmons.

<sup>3</sup> "A Survey of the Phytogeography of the Arctic American Archipelago with some Notes about its Exploration." *Lunds Universitets Årsskrift*. Nr. 19: pp. 1-183. Lund 1913: by Herman G. Simmons.

<sup>4</sup> "The Vegetation of Akpatok Island, Part I" *Journal of Ecology*. 22: pp. 337-395. 1934 and id., Part 2 *Journal of Ecology*. 23: pp. 161-209. 1935: by Nicholas Polunin.

limited to a mere half-dozen short lists of the more conspicuous plants that are to be observed at certain coastal points.

The most recent and extensive collections from within this area are in the possession either of the Gray Herbarium of Harvard University or of the National Herbarium of Canada at Ottawa; but while the vast majority of the *early* collections were made by adventurous Englishmen and so are housed in the British Museum or Kew Herbarium, there has nevertheless come to light on this side of the Atlantic one scrapbook containing several old collections. These are of such absorbing interest and historical value that they must surely not be missed by any student of the flora of Arctic America, while a survey of the history and contents of the scrapbook may well prove of interest to an even wider circle of readers.

The existence of this scrapbook was mentioned to me recently by Professor J. H. Faull of Harvard and enquiries soon led to its being loaned to the Gray Herbarium through the kind offices of Dr. Thomas M. C. Taylor of the Department of Botany of the University of Toronto. It appears to have been compiled in the 1850's by one "Adam White Esq., F.L.S. &c., British Museum," from specimens given him by their collectors—not for him to identify but to keep for his own edification, since he seems to have been "a mere entomologist with an eye for flowers." Handed down in the family, it has recently been presented to the University of Toronto by a descendant residing in that city.

The scrapbook contains, among illustrations of varying appropriateness, an autographed engraving of the navigator W. E. Parry and an original watercolour sketch "to Adam White F.L.S. C.Ede del. Griffiths Island. Grave of G. S. Malcolm A.B. H.M.S. Resolute who died from the effects of frostbite in the feet." With engaging naïvete we are told in another appended handwritten note that "The plant which covered Malcolm's grave was the *Saxifraga oppositifolia*. This is the favourite flower of Dr. Greville, as ascertained by Dr. Johnston who wrote to ask him." Among other curios that are stuck in the book is a large piece of birch bark on which we see written (apparently in December 1835) "From Fort Reliance, brought home by Captain Back" and signed, "John Richardson." There is also a specimen of *Parrya arctica* R.Br. labelled by the great Robert Brown himself as "For Mr. Adam White: Sir James Ross's last Voyage."

These and a few other items, connected as they are with well-known



early navigators and pioneer explorers and naturalists, add considerable human interest to the scrapbook; but its real *value* lies in the plant collections which it contains, and of each one of these I will now give some account in the order in which it appears in the book.

First there is a series of 36 plants, mostly different species of phanerogams and many of them unnamed, collected by Dr. Peter C. Sutherland as recounted in his "Journal of a Voyage in Baffin's Bay and Barrow Straits in the years 1850-1851, performed by H.M. Ships 'Lady Franklin' and 'Sophia,' under the command of Mr. William Penny, in search of the missing crews of H.M. Ships 'Erebus' and 'Terror.'"<sup>1</sup> Most of the plants were collected in the summer of 1851 around the wintering quarters of the expedition at Assistance Bay, Lat. 74° 40' N. Long. 94° 16' W. on Cornwallis Island, but a few came from Bushnan (often spelled Bushman) Island, Lat. 76° N. and Berry Island, Lat. 73° 20' N. (both on the Greenland side of Baffin's Bay) while one is marked "Northumberland Inlet,"<sup>2</sup> a locality which was however not visited by the expedition. Each specimen is labelled fully with locality and date, with generally some information as to the habitat, and, at the bottom, "H.M.S. Sophia."

A list of the "Plants collected during the voyage, and named by Sir W. J. Hooker, K.H. D.C.L. F.R.S. & L.S. etc." is given as an appendix to Sutherland's "Journal." The expedition having been "ordered to push forward in the search for Franklin," little scientific work was done and this list of plants is short, consisting of only 54 items representing about 46 species and varieties, nearly half of whose names now have to be changed. The collection in the scrapbook, while it appears to have been given to Adam White on the return

<sup>1</sup> London 1852: 2 vols.

<sup>2</sup> The label attached to this plant, a relatively luxuriant flowering specimen of *Pyrola grandiflora* Rad., reads: "Kennooksvooke Northumberland Inlet Lat. 67° North Long. 65° W. September 1846 Pyrola. The esquimaux and Danish settlers in West Greenland prize it as a valuable antiscorbutic." This label is in the spidery handwriting of Sutherland and the plant was evidently collected by him on a previous expedition (he mentions in the introduction to his "Journal" that he had already accompanied Capt. Penny "in two whaling voyages round Baffin's Bay"). Nevertheless we find this and nine other species from Northumberland Inlet mentioned in Sutherland's "Journal" in the list of "Plants collected during the voyage," with the result that Simmons in his "Phytogeography" (i.e.) has assumed Northumberland Inlet to be in the northwest of Devon Island and has erroneously recorded these plants as having been collected there by Sutherland. In reality Northumberland Inlet lies a full thousand miles to the southeast, being the large inlet in southeastern Baffin Land now called Cumberland Sound. Nor was it discovered, as Sutherland writes on p. clxxxix of the appendix to his "Journal," by Captain Penny who called it "Hogarth Sound," but instead by Davis who already in 1585 appears to have given it the name of Cumberland Inlet.

of the expedition and hence not to have been seen by the elder Hooker, does not afford any notable additions with the exception of *Poa abbreviata* R. Br. from Assistance Bay. Nevertheless it is valuable, even apart from its age and sentimental connections, as a duplicate set from the material which to this day affords almost the sole basis of our admittedly slender knowledge of the flora of Cornwallis Island.

Mixed in the book with these specimens of Sutherland's made in 1851 or previously are (1) a few others collected by him at various points up the West Coast of Greenland when serving on another Franklin search expedition on which he embarked the year after his return from the first and (2) six specimens of phanerogams collected on Cornwallis Island in 1851 by "Charles Ede R.N." An old newspaper cutting stuck in the scrapbook tells us that "Mr. Ede was assistant surgeon to Captain Ommanney's ship, on her late search after Sir John Franklin." This was H.M.S. Assistance, for which Assistance Bay was named. These specimens do not appear ever to have been noticed before; at least I can find no reference to them in arctic botanical literature, although often the collection of only a single plant by one of these early voyagers has been sufficient for his immortalisation therein! There are also in the scrapbook a few other phanerogams collected by Ede in Wolstenholme Sound and at other points on the Greenland side of Baffin's Bay, and several cryptogams collected on Cornwallis Island and at various points along the west coast of Greenland.<sup>1</sup>

Next in the scrapbook comes a series of 13 plants introduced as "collected by Sir John Richardson on his last journey to the shores of Arctic America when searching for Sir John Franklin." The plants are all different species of dicotyledons and are named in Richardson's handwriting but without date or even locality except of the vaguest order, almost all being merely labelled "arctic sea coast." Such vague labels, including Euphorbias which I have seen marked "Arctic

<sup>1</sup> A specimen of *Thymus Serpyllum* L. var. *prostratus* Horn. against which is marked in the handwriting of Ede "Wolstenholme Sound Dr Sutherland" must surely have been collected elsewhere. The species is well known in West Greenland but according to M. P. Porsild (Meddelelser om Grønland 1926 p. 140) is "a distinct southern type" having its northernmost limit near Holsteinsborg (Lat. 66° 55' N.) whereas Wolstenholme Sound lies around a latitude of 76° N. This specimen, exhibiting luxuriant growth and abundant flowers or their remains, was probably collected at Fiskernaes in southwest Greenland, a locality already represented by a specimen of *Bartsia alpina* L. on the very same page of the scrapbook. A specimen on another page of *Lychnis alpina* L. "Wolstenholme Sound Dr Sutherland" seems more feasible since, although this too is rather a southern species, it has been recorded from at least as far north as 72° N. on the West Coast of Greenland.



N. Amer.," are characteristic of many of Richardson's large collections and have caused a great deal of trouble to students of the flora of the areas through which he travelled. Indeed Richardson seems to have been a rather vague sort of person himself, although in other ways a most admirable one, for in a letter dated October 2nd 1850 which is stuck in the scrapbook and which he wrote apparently to Adam White he begins "My dear Sir: According to promise I send you a few specimens of plants gathered on the shores of the Arctic Sea. I have stupidly mislaid the address of the gentleman who translated . . . for me. If you can quietly ascertain . . . " However in the present instance the plants appear to have been gathered in all cases either at or within a few hundred miles to the east of the "Mouth of the Mackenzie" (one specimen is indeed so labelled) and, except for rather minor range extensions in the cases of "*Salix speciosa*" and "*Hippuris maritima*," to have been covered by the elder Hooker in his well-known "*Flora Boreali-Americana*," the principal material for which indeed came from Richardson's earlier collections.

There follow in the scrapbook a single specimen from Skelefteå in Sweden, collected in 1854 by J. Wolley, and then 20 phanerogams collected in southern Norway by L. Esbark, well preserved but of no particular interest. Also well preserved but this time of considerable interest and value is the last collection in the book. This consists of about 25 species of dicotyledons, almost all "pretty flowers" but named only as far as the genus, with engraved labels headed "Herb. Ind. Or. Hook. fil. et Thomson." They thus formed part of the great collections made by Drs. J. D. Hooker and Thomas Thomson in India and the Himalayas in the late 1840's, which resulted in a number of well-known botanical and other works, including their combined but never finished "*Flora Indica*" (the first volume of which was published in 1855, to be followed by "*Praecores ad Floram Indicam*" in the *Journal of the Linnean Society*), Thomson's "*Western Himalaya and Tibet*," Hooker's "*Himalayan Journals*" and finally his great seven-volume "*Flora of British India*."

The Governing Body of the University of Toronto are indeed to be congratulated on having acquired such an historically interesting and valuable scrapbook, and to be thanked for their generosity in giving me such free access to its contents.

GRAY HERBARIUM.

PLANTS FROM THE OUTER COASTAL PLAIN OF  
VIRGINIA

M. L. FERNALD

(Continued from page 404)

*OSTRYA VIRGINIANA* (Mill.) K. Koch, var. *lasia*, var. nov., ramulis dense subpersisterterque villosis.—Coastal Plain from Florida to Texas, north to Virginia, and less characteristically and more rarely to southeastern Massachusetts, inland through the Mississippi Basin to western Tennessee, southern Illinois, Iowa and South Dakota. TYPE: Lake City, Columbia County, Florida, July 11–19, 1895, *G. V. Nash*, no. 2158 (in Gray Herb.).

The Virginia collections are as follows: HENRICO COUNTY: Richmond, May 5, 1894, *J. R. Churchill*. PRINCESS ANNE COUNTY: rich dry woods, Little Neck, *Fernald, Griscom & Long*, no. 4627. NORFOLK COUNTY: dry rich woods, east of Gertie, *Fernald, Griscom & Long*, no. 4628.

Typical *Ostrya virginiana*, with the new branchlets glabrous or merely sparsely pilose and glabrate (or stipitate-glandular but otherwise glabrous in forma *glandulosa* (Spach) Macbr.) is the characteristic northern tree, occurring from Nova Scotia to Manitoba, south to the interior of Virginia, the uplands of Georgia and Tennessee, Missouri and Oklahoma. Var. *lasia* takes its place in lower areas of the southern Coastal Plain. Forma *glandulosa* occurs sporadically throughout the range of the glabrous-twigged typical *O. virginiana*.

Mr. C. A. Weatherby, who, in 1935, sought the type of *Carpinus virginiana* Mill. Gard. Dict. ed. 8, upon which the name *Ostrya virginiana* rests, reports that there seems to be no clearly identifiable specimen to stand as the type. I am, therefore, accepting the smoother extreme of the species.

In 1841 Spach defined two variations of our hop-hornbeam, *O. virginica* Willd.,  $\alpha$ . *glandulosa* and  $\beta$ . *eglandulosa* Ann. Sci. Nat. sér. 2, xvi. 246 (1841). His var. *glandulosa* was properly reduced to formal rank as *O. virginiana*, forma *glandulosa* (Spach) Macbr., Field Mus. Pub. Bot. iv. 192 (1929). In so doing Macbride seems to have left Spach's *O. virginica*  $\beta$ . *eglandulosa* to stand as typical *O. virginiana*.

*QUERCUS VIRGINIANA* Mill. NORTHAMPTON COUNTY: a single shrub in peaty clearing south of Townsend, *F. L. & F.*, no. 5292.

Extension north from Cape Henry.

\**Q. CINEREA* Michx. PRINCESS ANNE COUNTY: small trees among the sand dunes, Cape Henry, *F. L. & F.*, no. 4863.

Extension north from North Carolina.

*CELTIS LAEVIGATA* Willd. (*C. mississippiensis* Bosc). PRINCESS ANNE COUNTY: dry wooded slope near Third Street Bridge, Great Neck, trees 10 m. high, *F. & L.*, no. 4866; rich woods, Cedar Island, *F. G. & L.*, no. 4630, distributed as *C. occidentalis*, var. *submembranacea* Fern. Passing to

*C. LAEVIGATA*, var. *SMALLII* (Beadle) Sarg. (*C. occidentalis*, var. *submembranacea* Fern. in RHODORA, xxxvii. 425 (1935) ). To the station on Knott's Island add the following, also in PRINCESS ANNE COUNTY: rich woods, Cedar Island, trunks up to 6 dm. in diameter, *F. G. & L.*, no. 4631; dry wooded slope near Third Street Bridge, Great Neck, *F. & L.*, no. 4867. SOUTHAMPTON COUNTY: wooded bottomland of Meherrin River, above Haley's Bridge, *F. L. & S.*, no. 5767.

*ASARUM ARIFOLIUM* Michx. PRINCESS ANNE COUNTY: rich pine woods, Munden, *F. & G.*, no. 4387; pine woods, Creed's, *F. & G.*, nos. 4388, 4389.

Evidently rare in Virginia; not seen by us farther north nor west.

*POLYGONUM DENSIFLORUM* Meisn. (*P. portoricense* Bertero). See Weatherby, RHODORA, xxv. 20 (1923). PRINCESS ANNE COUNTY: peaty margin of cove, southern end of Lake Joyce, *F. L. & F.*, no. 4872, as *P. portoricense*. SURRY COUNTY: margin of pond in cypress swamp, Sunken Meadow Beach, *F. & L.*, no. 6810.

Not recorded by Kearney.

*P. CRISTATUM* Engelm. & Gray. NORTHAMPTON COUNTY: dry sandy and argillaceous pine woods back of the shore-bluff, west of Kiptopeke, *F. L. & F.*, no. 5300. SUSSEX COUNTY: dry sandy hickory and oak woods, Burt, *F. & L.*, no. 6200; border of dry sandy woods, 4 miles south of Stony Creek, *F. G. & L.*, no. 6590.

Not recorded by Kearney, Grimes nor Erlanson.

\**SALICORNIA MUCRONATA* Bigel. NORTHAMPTON COUNTY: border of salt marsh east of Eastville, *F. & L.*, no. 5303.

First collection in the Gray Herbarium from Virginia; not recorded by Kearney, Grimes nor Erlanson.

*S. EUROPAEA* L. PRINCESS ANNE COUNTY: salt marsh, arm of Lynnhaven Bay, at Third Street Bridge, Great Neck, *F. & L.*, no. 4876.

Not recorded by Kearney.

*S. AMBIGUA* Michx. PRINCESS ANNE COUNTY: moist sand, 1 mile east of Lynnhaven Inlet, *L. F. & F. R. Randolph*, no. 437; salt marsh, arm of Lynnhaven Bay, at Third Street Bridge, Great Neck, *F. & L.*, no. 4875.

Not listed by Kearney.



\**IREGINE RHIZOMATOSA* Standl. PRINCESS ANNE COUNTY: rich woods, Cedar Island, *F. G. & L.*, no. 4635.

Described by Standley as occurring in Texas, Oklahoma, Kansas, Missouri, Alabama, and Tennessee, with the type-collections from Plummerville Island in the Potomac in Montgomery County, Maryland. Standley specially noted the remarkable northeastern isolation on Plummerville Island, saying:<sup>1</sup>

The occurrence of the plant upon Plummerville Island is of great interest, for the station is the northernmost locality now known for the species and for the genus. It seems probable that seeds have been brought down by the Potomac from some locality in the mountains, although the genus is not known upon the east slope of the Alleghenies; or perhaps the plants are the last survivors of ancestors which had a wider range in Maryland and Virginia. There are several colonies of the plant upon Plummerville Island consisting of numerous individuals, but in 1915 only two or three plants flowered.

Cedar Island, in Back Bay, is on the outer Coastal Plain, 145 miles southeast of Plummerville Island. It is not probable that seeds have recently been arriving there, without colonies starting in intermediate spots. I strongly endorse Standley's suggestion that the Plummerville Island "plants are the last survivors of ancestors which had a wider range in Maryland and Virginia." The isolation of the species on Cedar Island favors this interpretation; it is quite parallel with numerous other isolations on the Coastal Plain.

NOTES ON *PARONYCHIA*, § *ANYCHIA* (PLATE 447, all figs.  $\times 10$ ).—*Anychia* Michx. Fl. Bor.-Am. i. 112 (1803) is a strictly North American group. Commonly kept apart as a genus, it met the challenge of Fenzl as early as 1840, the latter great student of the *Caryophyllales* reducing it to *Paronychia* Adans. as *Paronychia*, § *Anychia* (Michx.) Fenzl in Endlicher, Gen. 958 (1840). Although most American botanists have retained *Anychia* as a genus, Mr. J. Francis Macbride, in 1915, entered an unpublished binomial for one of our species on a sheet in the Gray Herbarium and made the memorandum: "*Anychia* and *Anychiastrum* are not to be retained. Old World species [of *Paronychia*] show pedicelled perianths and the bracts of *Anychia*"; and in 1934 Pax & Hoffmann in Engler & Prantl, Nat. Pflanzenfam. ed. 2, xvi<sup>c</sup>. 300 (1934) followed Fenzl in treating *Anychia* as a section of *Paronychia*. With this treatment I find myself in sympathy; consequently I am not able to follow Small in breaking *Anychia* into three genera.

<sup>1</sup> Standley, Proc. Biol. Soc. Wash. xxviii. 173 (1915).

In his Manual Small illustrates his ideas of generic differences in this series. *Anychia* has "Sepals with narrow margins, hooded and mucronate" and "Styles short, united" as contrasted with *Anychiastrum* Small with sepals "broad, with a wide hood at the apex and a short stubby mucro" and with "Styles elongate, united, separating and partly deciduous in age"; and *Nyachia* Small has "Sepals with broad wing-margins, hooded and with a thick umbo" and "Styles very short, distinct." Comparison of the illustrations on pages 480 and 481 of Small's Manual show the "short stubby mucro" of the sepals of *Anychiastrum* to be longer than and as sharp as in *Anychia* and the upper calyces of each series of drawings so similar as to be essentially inseparable, while the lower calyx under *Anychia* is so like both calyces under *Nyachia* that the reputed GENERIC differences are not evident. Furthermore, all three have the sepal-tip hooded or cucullate. If the degree of sharp-pointing is considered a generic difference, what shall we say about *Anychia canadensis* (L.) Ell. and *A. polygonoides* Raf., both included by Small under *Anychia*, while the very similar *A. divaricata* Raf. appears as *Anychiastrum montanum* Small? As originally described by Small (Torreya, x. 231) the sepals of the latter (FIGS. 9-11) are "abruptly pointed at the apex, . . . without prominent apical cusps." But in the most extreme form (FIG. 8) of *Anychia polygonoides* (*A. Nuttalli* Small) the sepals end in a positive awn or cusp 0.2 mm. long, while in *A. canadensis* the flat round-tipped sepals (FIG. 1) are even less mucronulate than in *Anychiastrum montanum*. As a stable GENERIC character the degree of pointing of the sepals is extremely weak.

Similarly with the styles. Although *Anychia* is separated from *Anychiastrum* by having "Styles short, united," as opposed to "elongate, united, separating . . . in age," the lower right-hand flower of *Anychia* in Small's Manual is shown with the 2 styles wholly distinct, as in *Nyachia*. Those who find clarity and intellectual stimulus in the recognition of such "genera" are free to do so; unless they further clarify them, however, they can hardly expect others to follow them. Personally, I agree with Pax & Hoffmann in reducing *Anychiastrum*, *Anychia* and *Nyachia* to *Paronychia*.

*Paronychia* § *Nyachia* (Small) Pax & Hoffm. l. c. (1934), based on *Nyachia* Small in Torreya, xxv. 11 (1925), consists of a single unique species from the sands of Florida. This is *Nyachia pulvinata* Small, which became *Paronychia pulvinata* (Small) Pax & Hoffm. l. c. The

latter name, however, is a later homonym, for Pax & Hoffmann overlooked the Rocky Mountain *P. pulvinata* Gray (1864). Under *Paronychia*, *Nyachia pulvinata* may become *P. chartacea*.<sup>1</sup>

*Paronychia*, § *Anychia* consists of two species. One of them, *P. canadensis* (L.) Wood, Class Bk. 1861: 262 (1861) at least as to type, *Queria canadensis* L., is a clear-cut species, with glabrous stems, capillary branches, thin elliptic leaves, very short stipules and stipular bracts, flat essentially ribless round-tipped sepals and much exserted subglobose capsules (FIG. 1) with distinct styles. The other species is usually coarser, the stem puberulent or minutely pilose, the leaves oblanceolate to narrowly obovate or narrowly elliptic, the stipules and stipular bracts attenuate and comparatively conspicuous, the sepals (FIGS. 2-8) usually corrugated (always so in age except sometimes in one variety), mucronulate- to subulate-tipped, the capsule included or barely exserted, obovoid, with the styles united at least below. This second species is the heteromorphic series now passing as *Anychia polygonoides* Raf. and *Anychiastrum montanum* Small.

*Anychia polygonoides* occurs in four geographic varieties:

Var. *a* (FIGS. 2-5). Stem stiffly erect or ascending, the older and larger plants with broad flabelliform outline, the branchlets rather densely flowering; leaves grayish-green, often minutely serrulate toward the sharp tip, those of the primary axis 1-2 cm. long; stipular bracts subtending the flowers lance-attenuate, shorter than the calyx; sepals definitely corrugated, with minute white mucronulate tips; styles united, much shorter than the ovary.—Massachusetts to Wisconsin, south to Florida and Texas.—Passing insensibly to var. *b* and through diffuse and greener plants to var. *d*. *Anychia polygonoides* Raf.

Var. *b* (FIGS. 6 and 7). Similar to var. *a*; stipular bracts equaling or overtopping the flowers.—Delaware and Pennsylvania to Illinois and Tennessee.

Var. *c* (FIG. 8). Similar to var. *a* or more depressed and divergently bushy-branched; sepals with subulate awns 0.2 mm. long.—Huntingdon, Adams and Franklin Cos., Pennsylvania. *Anychia Nuttalli* Small.

Var. *d* (FIGS. 9-11). Diffusely to horizontally branched, forming low and intricate mats, greener; leaves barely if at all serrulate, the larger (primary) ones only 0.7-1.2 cm. long; stipular bracts ovate-

<sup>1</sup> *PARONYCHIA chartacea*, nom. nov. *Nyachia pulvinata* Small in Torrey, xxv. 12 (1925). *P. pulvinata* (Small) Pax & Hoffm. in Engler & Prantl. Pflanz. Aufl. 2, xvi<sup>c</sup>. 300 (1934) not *P. pulvinata* Gray in Proc. Acad. Nat. Sci. Phila. for 1863: 58 (1864).





Photo. E. C. Ogden.

VARIETIES OF *PARONYCHIA FASTIGIATA*, all figs.  $\times 10$ : FIGS. 2-6, var. *TYPICA*; FIGS. 6 and 7, var. *PALEACEA*; FIG. 8, var. *NUTTALLI*; FIGS. 9-11, var. *PUMILA*. FIG. 1, *P. CANADENSIS*.



Photo, E. C. Ogden.

VARIETIES OF *CASSIA NICTITANS*, details  $\times 4$ : FIG. 1, var. *HEBECARPA*, plant,  $\times 1$ ; FIG. 2, leaf; FIG. 3, surface of legume; FIG. 4, surface of legume of *C. NICTITANS*; FIG. 5, of var. *LEIOCARPA*.

lanceolate, shorter than to about equaling flowers; sepals less corrugated to plane, blunt, very minutely mucronulate; united styles nearly or quite as long as ovary.—Pennsylvania to Georgia and Alabama. *Anychiastrum montanum* Small.

That the first three varieties are variations of one species there is likely to be little question. The fourth (*Anychiastrum montanum*) is more remote from the others through its diffuse habit, greener and smaller foliage, broader stipular bracts, blunter and less corrugated sepals and longer style-column. But numerous plants with the characteristic gray-green foliage are diffuse and several of them have the style enough elongated to make a strong approach to typical *Anychiastrum montanum*, while such plants as *Hunnewell & Griscom*, no. 15,169 from Three-Top Mt., Shenandoah Co., Virginia, with the scarcely corrugated sepals (FIG. 11) and the long style of *Anychiastrum montanum*, has the ascending habit of typical *Anychia polygonoides* (my var. *a*). Furthermore, such a diffusely branched plant as *C. C. Deam's* no. 7540, from Clark Co., Indiana, with the habit and small green leaves of *Anychiastrum montanum*, has the corrugated sepals and the short style (FIG. 5) of var. *a*. Such specimens indicate that *Anychiastrum montanum*, in its best development, is only one of the extremes of a variable species. Incidentally, it has a number of names much earlier than that given by Small. These and the other names given to the pubescent-stemmed species will now be discussed.

In determining the proper names for these four varieties, we at once meet a familiar difficulty: Rafinesque proposed several species. The first series was published in Rafinesque's *Atlantic Journal* (1832) and included four species:

1. *Anychia Polygonoides*, Raf. discovered, 1818. Stem dichotomous, lax, erect, puberulent; leaves patent, linear cuneate, acute, nearly smooth, stipules lanceolate; flowers solitary in dichotomy, subpedicellate, erect. From the mountains Alleghany, and estival like the three following, six inches high.

2. *Anychia fastigiata*, Raf. disc. 1820. Stem dwarfish, erect, puberulent, subdichotome, fastigiate; leaves adpressed, linear cuneate, acute; flowers crowded, fastigiate, secund, subsessile. From Kentucky, one or two inches.

3. *Anychia conferta*, Raf. disc. 1821. Stem erect, dichotome, puberulent; leaves linear cuneate, acute, serrulate; flowers crowded, fastigiate, bracteate, pedunculate. From knobs of Kentucky, annual, three or four inches.

4. *Anychia lateralis*, Raf. disc. 1821. Stem procumbent, dichotome, divaricate; leaves remote, short, linear cuneate, entire; branchlets uni-



lateral; flowers sessile, lax or remote. Arid hills of Kentucky, one to three inches.<sup>1</sup>

In 1838 Rafinesque added somewhat to his characterizations of 1832, in the *New Flora of North America*, iv. 42 (1838). He had one additional name which concerns us:

835. *ANYCHIA DIVARICATA* R. stem decumbent puberulent very branched and divaricate, leaves oblong acute smooth, stipules ovate acute, flowers crowded striate sessile segments of calix nervose.—A very distinct sp. blended as usual with *Queria* or *A. canadensis*, branches so divaricate as to be sometimes almost reflexed, leaves 3 lines long one broad, flowers small quite crowded at the end of branchlets. Found from the Alleghany Mts. to Kentucky on hills, estival, stems spreading 6 to 10 inches.<sup>2</sup>

*Anychia polygonoides*, *fastigiata* and *conferta* are, with reasonable certainty, either my var. *a* or *b*; without mention by Rafinesque of the stipular bracts it is now impossible to say which. *A. lateralis* suggests my var. *d*, but it came from "arid hills of Kentucky," whence we do not know *Anychiastrum montanum*, and it might have been a habit-form of *Anychia polygonoides*. *Anychia divaricata* with its "branches so divaricate as to be sometimes almost reflexed" seems to be my var. *d* and in 1911 Steele<sup>3</sup> took up *Anychia divaricata* in this sense, gave a detailed and accurate<sup>4</sup> account of it and cited characteristic specimens. There is no question that *Anychia divaricata* Raf. *sensu* Steele is *Anychiastrum montanum*. After his very discerning discussion of *Anychia divaricata* Steele remarked: "I leave it to Doctor Small, who is already acquainted with this plant, to transfer it to *Anychiastrum*, if he sees fit." Small, however, had already (the year before) described the plant as a wholly new species of his *Anychiastrum*.

One other name must be considered. When Wood published the combination *Paronychia canadensis* (L.) Wood in 1861 for the upright plant with "style none," he defined a variety which is surely *A. divaricata* Raf. *sensu* Steele or *Anychiastrum montanum*. This variety of *Paronychia canadensis* was

β. *PUMILA*. Dwarf, a few inches (2–4") high, the lvs. reduced in proportion, very pubescent; stems short-jointed, tufted, fls. sessile, glomerate-

<sup>1</sup> Raf. *Atl. Journ.* 16 (1832).

<sup>2</sup> Raf. *New Fl.* iv. 42 (1838).

<sup>3</sup> Steele, *Contrib. U. S. Nat. Herb.* xiii. 363 (1911).

<sup>4</sup> Steele slipped into one unfortunate inaccuracy, citing *Anychia divaricata* Raf. as published in "*Neogenyton* 4: 42. 1825." *Neogenyton* was published in 1825, but it consisted of only 4 pages and did not include *Anychia*. Steele was confused by the name given by Rafinesque to part iv. of his *New Flora* (1838); this part was designated by its author "*Neobotanon*."

*style as long as the ovary* (at least in specimens from Md. sent by Mr. H. Shriver).<sup>1</sup>

From among the early specific names of Rafinesque's, *Anychia polygonoides* has been selected and validated as applying to the common plant with flabelliform or fastigiate habit, pubescent stem, corrugated sepals and united styles. This name, however, cannot be taken over into *Paronychia* on account of *P. polygonoides* Muschler in Engl. Bot. Jahrb. xlv. 459 (1911). *A. fastigiata* and *A. conferta* were apparently conspecific with *A. polygonoides* (merely smaller plants) and I am, therefore, selecting the former of the two for retention. Since it is not now possible to determine with certainty whether Rafinesque had the variety with shorter or with longer stipular bracts I am applying his name to the wider-ranging and generally commoner var. *a*.

As I understand this complex species it should bear the following names. The characters are given on p. 418.

**PARONYCHIA fastigiata** (Raf.), comb. nov., var. **typica**. *Anychia fastigiata* Raf. Atl. Journ. 16 (1832). *A. polygonoides* Raf. l. c., not *Paronychia polygonoides* Muschler (1911). *A. conferta* Raf. l. c. Var. *a* of p. 418. FIGS. 2-5.

Var. **paleacea**, var. nov. (FIGS. 6 et 7), stipulis elongatis, bracteis stipularibus calyces aequantibus vel superantibus.—Delaware and Pennsylvania to Illinois and Tennessee. TYPE: dry soil, Mt. Cuba, Delaware, July 30, 1875, *A. Commons* in Gray Herb. (distributed as *A. canadensis*).

Var. **Nuttalli** (Small), comb. nov. *Anychia Nuttalli* Small in Torrey, xxv. 60 (1925).—Mountains of Pennsylvania. FIG. 8.

Var. **pumila** (Wood), comb. nov. *Anychia canadensis*,  $\beta$ . *pumila* Wood, Class Book, 1861: 263 (1861). *A. divaricata* Raf. New Fl. iv. 42 (1838) at least as interpreted by Steele, Contrib. U. S. Nat. Herb. xiii. 363 (1911). *Anychiastrum montanum* Small in Torrey, x. 230 (1910). *Plagidia montana* (Small) Nieuwl. in Am. Midl. Nat. iii. 115 (1913). *Paronychia montana* (Small) Pax & Hoffm. in Engl. & Prantl, Pflanzenr. Aufl. 2, xvi<sup>c</sup>. 300 (1934). FIGS. 9-11.

**SILENE CAROLINIANA** Walt. PRINCESS ANNE COUNTY: sandy pine woods, scarce, Creed's, *F. & G.*, no. 4390.

Not listed by Kearney and evidently very local in southeastern Virginia.

**CERATOPHYLLUM DEMERSUM** L. PRINCESS ANNE COUNTY: in water at margin of Lake Joyce, *F. L. & F.*, no. 4638. SURREY COUNTY: margin of pond in cypress swamp, Sunken Meadow Beach, *F. & L.*, no. 6814.

<sup>1</sup> Wood, Class Book, 1861: 263 (1861).

Not listed by either Kearney or Erlanson; but presumably of wide dispersal in ponds and pools.

*RANUNCULUS PUSILLUS* Poir. The following material is in the Gray Herbarium from the Coastal Plain of Virginia.—ELIZABETH CITY COUNTY: pools at Hampton, May 12 and 13, 1877, *Thos. Morong*; marshy border of woods between Buckroe and Hampton, *B. L. Robinson*, no. 301. PRINCESS ANNE COUNTY: mud of wooded swamp, Oceana, *F. & G.*, no. 4393; pools in gum swamp, west of Pungo, *F. & G.*, no. 4394; border of gum swamp, Land of Promise, *F. & G.*, no. 4395; border of wet clay ditch, Virginia Beach, *F. & G.*, no. 4396. NORFOLK COUNTY: alluvial woods near Cornland, *F. & G.*, no. 4397.

Not listed by Kearney nor Erlanson; but doubtless overlooked because of its early maturing, the plant being a quickly maturing annual or biennial which is completely disintegrated by early June.

\**RANUNCULUS PALMATUS* Ell. NORFOLK COUNTY: ditch, Cedar Hill, *F. & G.*, no. 4398. CHESTERFIELD COUNTY: wooded river-swamp along Appomattox River, near Hopewell, *F. L. & S.*, no. 5777.

First records from north of South Carolina.

*MENISPERMUM CANADENSE* L. PRINCESS ANNE COUNTY: rich woods, Great Neck, *F. & G.*, no. 4407.

Not listed by Kearney nor Erlanson.

*PERSEA PALUSTRIS* (Raf.) Sarg. (*P. pubescens* (Pursh) Sarg.) NORTHAMPTON COUNTY: low deciduous and mixed woods, Eastville, *F. & L.*, no. 5307; woods north of Cheriton, *R. R. Tatnall*, no. 1810.

Extension north from Cape Henry.

\**BENZOIN AESTIVALE* (L.) Nees, var. *PUBESCENS* Palmer & Steyermark. PRINCESS ANNE COUNTY: rich dry woods, Great Neck, *F. & L.*, no. 4880. CHESTERFIELD COUNTY: wooded river-swamp along Appomattox River, near Hopewell, *F. L. & S.*, no. 5780.

Although Palmer & Steyermark indicate the pubescent-leaved southern Spice Bush as extending north, in the East, only to South Carolina, it reaches New Jersey and eastern Pennsylvania.

*SANGUINARIA CANADENSIS* L., var. *ROTUNDIFOLIA* (Greene) Fedde. PRINCESS ANNE COUNTY: rich woods, Great Neck, *F. & G.*, no. 4411. ISLE OF WIGHT COUNTY: rich sandy and loamy wooded slope north of Walthers, *F. G. & L.*, no. 6599, less characteristic.

Typical *Sanguinaria canadensis*, with the leaf becoming 1–2.8 dm. broad, the margins of the broad basal lobes and summits of the narrower ones coarsely dentate or crenate, occurs from eastern Quebec to Manitoba and North Dakota, southward to northern Florida,



Tennessee, Arkansas and Oklahoma. Southward it passes into the there more frequent var. *rotundifolia*, with mature leaves only 0.7–1.8 dm. broad, firmer, unlobed or lobed, the margin without dentations or barely undulate. This southern extreme reaches northeastward to New Jersey and Pennsylvania.

\**CAPSELLA BURSA-PASTORIS* (L.) Medic., var. *BIFIDA* Crépin. NORTHAMPTON COUNTY: common weed in cultivated field, Eastville, *F. & L.*, no. 5308.

A very marked variation, with large and deeply notched fruit.

*DENTARIA LACINIATA* Muhl. PRINCESS ANNE COUNTY: rich woods, Great Neck, *F. & G.*, no. 4413.

Listed by neither Kearney nor Erlanson.

*AGRIMONIA PLATYCARPA* Wallr. NORTHAMPTON COUNTY: dry sandy pine woods, Eastville, *F. & L.*, no. 5314; dry pine woods south of Kendall Grove, *F. L. & F.*, no. 5315. ISLE OF WIGHT COUNTY: rich sandy and loamy wooded slope north of Walters, *F. G. & L.*, no. 6606. SUSSEX COUNTY: sandy and loamy woods south of Pleasant Grove Church, *F. & L.*, no. 6225.

Not recorded by Kearney nor by Erlanson.

*CASSIA NICTITANS* L., var. **hebecarpa**, var. nov., (TAB. 448, FIGS. 1–3), caulibus laxe ramosis vel depressis; foliis 10–15-jugis glabris vel ciliolatis valde approximatis 4–7 mm. longis; leguminibus villosis-hirsutis, villis divergentibus ad 1 mm. longis.—Coast of Virginia and North Carolina. VIRGINIA: crest of sandy and argillaceous bluff along Chesapeake Bay, Old Town Neck, Northampton Co., October 13, 1935, *Fernald, Long & Fogg*, no. 5316 (TYPE in Gray Herb., ISOTYPES in Herbs. Phil. Acad. and Univ. Pa.); NORTH CAROLINA: Elizabeth City, August 26, 1893, *Boettcher*, no. 291.

Typical *Cassia nictitans* has the surfaces of the legumes (FIG. 4) covered with minute incurved-appressed hairs and the longer and less approximate leaflets glabrous, the rachis either glabrous or appressed-pubescent. In its villous-hirsute legumes the newly proposed var. *hebecarpa* suggests var. *Mohrii* (Pollard) Macbr., but that more southern extreme has the leaf-surfaces positively pubescent.

On Pine Mountain in Bell County, Kentucky, Kearney collected the extreme in the series of variations of *Cassia nictitans*, the plant of Bell County having the legume quite glabrous. This extreme may be called

*C. NICTITANS* L., var. **leiocarpa**, var. nov. (TAB. 448, FIG. 5), leguminibus glabris.—KENTUCKY: Pine Mountain, Bell Co., September, 1893, *T. H. Kearney*, no. 496 (TYPE in Gray Herb.).

\**BAPTISIA TINCTORIA* (L.) R. Br., var. *Gibbesii* (Small), comb. nov. *B. Gibbesii* Small, Fl. Se. U. S. 599, 1331 (1903).

Although Small restricts his *Baptisia Gibbesii* to South Carolina, plants with the small fruits rounded at summit, instead of larger and tapering, are in the Gray Herbarium from scattered points on the Coastal Plain, from Georgia (dry pine woods near Belair, Richmond Co., Harper, no. 1315) to Rhode Island (Wickford, August 28, 1908, G. G. Kennedy).

The collections from Virginia indicate rather general occurrence. NORTHAMPTON COUNTY: dry clearing bordering pine woods south of Kendall Grove, *F. L. & F.*, no. 5319. PRINCESS ANNE COUNTY: clay field near Lynnhaven, *F. G. & L.*, no. 4658. PRINCE GEORGE COUNTY: argillaceous and siliceous boggy depression north of Gary Church, *F. L. & S.*, no. 5804. SOUTHAMPTON COUNTY: dry sandy oak and pine woods northeast of Cypress Bridge, *F. & L.*, no. 6227.

Although var. *Gibbesii* in extreme development is well marked, there are altogether too many transitional specimens to hold it specifically apart from the larger-fruited *B. tinctoria*.

*CROTALARIA SAGITTALIS* L. Frequent in sandy woods and clearings, NORTHAMPTON, ELIZABETH CITY, PRINCE GEORGE, and SUSSEX COUNTIES.

The statement current in our manuals that *Crotalaria sagittalis* is ANNUAL is misleading. Northward and frequently southward it flowers as an annual, but in eastern Virginia it is more often a stout-based and obvious perennial.

*PSORALEA PSORALIOIDES* (Walt.) Cory. (*P. pedunculata* (Mill.) Vail, not Poir.) NANSEMOND COUNTY: dry sandy woods and adjacent clearings, Kilby, *F. L. & F.*, no. 4890; and frequent westward to the Fall Line.

Listed by Kearney only from North Carolina.

*WISTERIA FRUTESCENS* (L.) Poir. NORFOLK COUNTY: climbing high at border of gum swamp, near Cornland, *F. & G.*, no. 4438.

Not listed by Kearney nor Erlanson; first representative in the Gray Herbarium from Virginia. The species was recorded from Virginia by André Michaux in 1803, his record repeated by Pursh, Torrey & Gray and others. It is now certainly rare in the state.

*DESMODIUM PAUCIFLORUM* (Nutt.) DC. PRINCESS ANNE COUNTY: rich dry woods, Great Neck, *F. & L.*, no. 4893.

Not listed by Kearney.

*D. ROTUNDIFOLIUM* (Michx.) DC. ELIZABETH CITY COUNTY: bushy clearings and borders of woods west of Hampton, *F. L. & F.*,

no. 4897. NANSEMOND COUNTY: dry sandy woods and adjacent clearings, Kilby, *F. L. & F.*, no. 4896. Thence west to the Fall Line.

Not listed by Kearney.

*D. PANICULATUM* (L.) DC., var. *PUBENS* T. & G. PRINCESS ANNE COUNTY: open sands back of the dunes, Rifle Range, south of Rudy Inlet, *F. & L.*, no. 5901, growing with var. *ANGUSTIFOLIUM* T. & G. (var. *Chapmani* Britton), our no. 5900, a variety recorded by Kearney. ISLE OF WIGHT COUNTY: sandy pine and oak woods south of Zuni, *F. & L.*, no. 6615.

Not recorded by Kearney nor by Erlanson.

*D. LINEATUM* (Michx.) DC. NORTHAMPTON COUNTY: dry pine woods east of Eastville, *F. & L.*, no. 5330. PRINCESS ANNE COUNTY: dry argillaceous fields and bushy clearings, Rosemont, *F. & L.*, no. 4894; pine woods, Macon's Corner, *F. & L.*, no. 4895. Thence west to the Fall Line.

Noted by Kearney (as *Meibomia arenicola* Vail) only from Virginia Beach.

\**LESPEDEZA STIPULACEA* Maxim. Abundant by many roadsides from PRINCESS ANNE COUNTY (Cape Henry, *F. & G.*, no. 2836, as *L. striata*) inland at least to ISLE OF WIGHT COUNTY (Zuni, *F. & L.*, no. 6239) and north to STAFFORD COUNTY (Aquia Church, *F. L. & F.*, no. 4913).

Thoroughly naturalized.

*RHYNCHOSIA ERECTA* (Walt.) DC. NORTHAMPTON COUNTY: dry sandy pine woods, Eastville, *F. & L.*, no. 5339. NANSEMOND COUNTY: dry sandy woods and adjacent clearings, Kilby, *F. L. & F.*, no. 4922). Thence west to the Fall Line.

Not recorded by Kearney.

\**OXALIS STRICTA* L., forma ***viridiflora*** (Hus), comb. nov. *Oxalis stricta viridiflora* Hus in Mo. Bot. Gard. Ann. Rep. xviii. 99 (1907). VIRGINIA: open sandy border of roadside ditch, Savage Neck, Northampton Co., October 11, 1935, *Fernald & Long*, no. 5341.

The form of *Oxalis stricta* with green petals appears sporadically through the range of the species and should rank as a *forma* rather than as a geographic variety, the variations to which the term *varietas* is more and more restricted. When he published it with a trinomial Hus spoke of it as a variety; and it has so been treated by other writers.

*ZANTHOXYLUM CLAVA-HERCULIS* L. NORTHAMPTON COUNTY: sandy and argillaceous bluff and upper border of beach, Chesapeake Bay, west of Kiptopeke, *F. L. & F.*, no. 5342.



Extension north from Cape Henry. A beautifully developed colony of trees.

\**MELIA AZEDARACH* L. NORTHAMPTON COUNTY: many fruiting trees, border of pine woods north of Kendall Grove, *F. L. & F.*, no. 5357. SOUTHAMPTON COUNTY: border of wooded bottomland of Meherrin River, above Haley's Bridge, *F. L. & S.*, no. 5820.

Generally cultivated as China Berry or "Mahogany"; now naturalized through seeding from old trees. Small (Man.) gives the north-eastern limit as North Carolina. Kearney listed the species as "perhaps planted" and Erlanson's record of a "Flourishing tree in Williamsburg" is inconclusive.

*POLYGALA CURTISSII* Gray. NANSEMOND COUNTY: dry sandy woods and adjacent clearings, Kilby, *F. L. & F.*, no. 4925. Thence common westward and northwestward to the Fall Line.

Not listed by Kearney nor Erlanson.

*P. CRUCIATA* L. NORTHAMPTON COUNTY: boggy swale bordering swampy woods, south of Kendall Grove, *F. L. & F.*, no. 5347. SUSSEX COUNTY: Waverly, *A. B. Seymour*, no. 8. SOUTHAMPTON COUNTY: sandy border of wooded swamp about 3 miles northwest of Ivor, *F. & L.*, no. 6262.

Noted by Erlanson only from Henrico County; evidently local.

*EUPHORBIA OBTUSATA* Pursh. PRINCESS ANNE COUNTY: roadside, Land of Promise, *F. & G.*, no. 4446. HENRICO COUNTY: cultivated field, May 13, 1911, *J. R. Churchill*. SOUTHAMPTON COUNTY: wooded bottomland of Meherrin River, above Haley's Bridge, *F. L. & S.*, no. 5830.

Not listed by either Kearney or Erlanson.

*ILEX VOMITORIA* L. NORTHAMPTON COUNTY: south shore of Old Plantation Creek, 4 miles south-southwest of Bayview, *R. R. Tatnall*, no. 1796; peaty clearing south of Townsend, *F. L. & F.*, no. 5354.

Extension north from Princess Anne County.

\**VITIS CINEREA* Engelm., var. *FLORIDANA* Munson in Rev. de Vitic. vi. 424 (1896). *V. Simpsoni* Munson in Proc. Soc. Prom. Agr. Sci. viii. 59 (1887); Small, Man. Se. Fl. 838 (1933); Bailey, Gentes Herb. iii. 205 (1934). *V. austrina* Small, Fl. Se. U. S. 775, 1334 (1903).—Common and very conspicuous, climbing high in alluvial woods and wooded swamps of southeastern Virginia. The following specimens, representative of many stations, have been collected. ELIZABETH CITY COUNTY: thickets, Buckroe, *B. L. Robinson*, no. 348, as *V. aestivalis*. NEW KENT COUNTY: thicket by Chickahominy River, near Providence Forge, *F. G. & L.*, no. 6635. PRINCE GEORGE COUNTY: river-swamp of Blackwater River, north of Disputanta,

*F. L. & S.*, no. 5842. GREENSVILLE COUNTY: sandy alluvium, bottomlands of Fontaine Creek, southwest of Haley's Bridge, *F. G. & L.*, no. 6634. NANSEMOND COUNTY: border of inundated cypress swamp along Somerton Creek, Factory Hill, *F. & L.*, no. 6831. NORFOLK COUNTY: Portsmouth, *Rugel*, specimen marked by Engelmann "*Vitis aestivalis* foliis indivisis" and by Bailey "*V. aestivalis*"; border of woods, northeast of Northwest, *F. G. & L.*, no. 4673. PRINCESS ANNE COUNTY: border of gum swamp, Oceana, *F. G. & L.*, no. 4672; rich woods, Cedar Island, *F. G. & L.*, no. 4674.

In Gray's Synoptical Flora, i. fasc. 2: 425 (1897) Bailey cited *Vitis cinerea* var. *floridana* only from "Manatee Co., Florida, and apparently also in Arkansas" and separated it, as had Munson in 1896, from *V. cinerea* with "ash-gray leaves and the gray tomentum of the young growth" by its "Growing tips rusty-tomentose, as are sometimes the veins on the under sides of the leaves; cluster longer-peduncled and more compound." *V. cinerea*, a wide-ranging species of the Mississippi Basin and Gulf Coastal Plain, was cited as coming east to northern Florida. In his Manual Small admits *V. cinerea* for Florida and cites *V. Simpsoni* as occurring only on that peninsula. In his latest consideration of the group, his *Species of Grapes peculiar to North America*, Gentes Herbarum, iii. fasc. iv. (1934), Bailey elevates *V. Simpsoni* to specific rank (with *V. cinerea*, var. *floridana* correctly cited as a synonym), with the range "Southern Georgia and Florida according to Munson; I have a specimen . . . ticketed as native in southeastern Arkansas . . . I have seen it at Augusta, Georgia and southward . . . ; to be expected in the Carolinas." Not only is this characteristic *Vitis* "to be expected in the Carolinas"; in the Gray Herbarium it is well represented by thoroughly characteristic material from SOUTH CAROLINA (rich woods, Abbeville District, June, 1855, *Hexamer & Maier*; Santee Canal, *Ravenel*; both identified by Bailey as *V. aestivalis*) and from NORTH CAROLINA (thicket along edge of swamp, Edenton, *L. F. & F. R. Randolph*, no. 611, as *V. aestivalis*). In southeastern Virginia it abounds and "strikes one in the eye" through its rufescent shoots with the characteristically uncleft and long-tipped blades projecting over the roads from many or most rich swampy woodlands. Thoroughly characteristic plants of it can be seen clambering over the trees in a moist depression near the Biological Laboratories of the University of Richmond.

When Mr. Long and I called the attention of our hosts, Professors John W. Bailey and Robert F. Smart to this conspicuous climber,

unrecorded from north of southern Georgia, Professor Bailey promptly responded: "Why, that's Pigeon Grape. It grows everywhere in the lower Mississippi Valley." He was essentially correct. The only shadow of difference I can find to separate var. *floridana* from *V. cinerea* is its rufescence. The tendrils and foliage are otherwise identical, the thyrses, whether in flower or fruit, shows quite parallel variation and the length of the peduncle, emphasized by Bailey, gives me nothing diagnostic. The stones of ripe fruits collected by Long and me in mid-October exactly match those of material from Engelmann himself of his *V. cinerea*. It is significant that Munson, whose experience with southern grapes was unequaled, abandoned *V. Simpsoni* as a species and treated it as *V. cinerea*, var. *floridana*. Two sheets of Simpson's material sent by Munson to the Gray Herbarium are important. They were originally labeled by him *Vitis Simpsoni*, "Rusty Winter Grape" or "Rusty Cinerea." On one sheet Munson, on September 24, 1889, wrote "should be only a variety of *V. cinerea*. T. V. M. 9/24 '89." On the other sheet he crossed out the name *V. Simpsoni* and substituted "*V. cinerea*, var."

Until something more positive than rufescence (which is often not very obvious) instead of cinereousness is put forward I am unable to maintain *Vitis Simpsoni* as a species.<sup>1</sup> But as a variety of the wide-ranging *V. cinerea* of the Mississippi Basin and Gulf Coastal Plain it is most interesting. The occurrence of types largely developed in the latter regions but with continuous or even quite isolated or restricted areas on the Atlantic Coastal Plain is becoming more and more apparent. This *Vitis* is another case in point.

STEWARTIA MALACHODENDRON L. Two Virginia sheets are in the Gray Herbarium, one from ACCOMAC COUNTY, 1886, *Ellis Mears*; the other from NORFOLK COUNTY, *F. & G.*, no. 4455.

<sup>1</sup> Nor am I able to treat as distinct species *Vitis aestivalis* Michx. (1803) and *V. argentifolia* Munson (1887), the plant which has been passing, erroneously as shown by Bailey, l. c. 197, as *V. bicolor* LeConte, not Raf. Every field-botanist I have known, who is familiar with the two from southern New England to Pennsylvania and Virginia, has expressed the view that *V. argentifolia* ("*V. bicolor*") is merely a less rufescent and more glaucous and glabrate-leaved northern, inland and upland variety of the more pubescent and more rufescent *V. aestivalis*, which, in the northern half of its range, occurs at low altitudes. The name, *V. aestivalis*, var. *bicolor*, incorrectly ascribed by Britton & Brown, III. Fl. ii. 409 (1897) to "LeConte, Wats. & Coult. in A. Gray, Man. Ed. 6, 113. 1890," can not be used, in the first place because our plant is not *V. bicolor* LeConte, in the second place because neither LeConte nor Watson & Coulter ever published a *V. aestivalis*, var. *bicolor*. The combination was made by Britton & Brown in synonymy. The smoother and glaucous plant is *VITIS AESTIVALIS* Michx., var. *argentifolia* (Munson), comb. nov. *V. argentifolia* Munson in Proc. Soc. Prom. Agr. Sci. viii. 59 (1887).



It is wiser not to publish the exact localities. Too many people, and among them many botanists, will immediately dig up and take home to die mature or old individuals of rare and local plants, which, left undisturbed in their natural haunts, would survive for future generations. If people lack consideration for others it is better not to show them rare plants. *Stewartia Malachodendron* is now very rare in Virginia (or elsewhere), doubtless due to removal of shrubs for their beautiful flowers. The species was sent from Virginia to the Earl of Bute (Stuart or Stewart) and others, who were cultivating it as early as 1741. In that year, in his *Decem Plantarum Genera*, Linnaeus described it as *Stewartia* (with the plate referred to as *Stevartia*) from material derived from Virginia, the plate drawn by Ehret ("Icon plantae manu Ehretii"), and he stated that dried specimens had been sent by John Clayton to Gronovius. In 1743 or 1748, in Marc Catesby's *Natural History of Carolina*, etc. Append. 13, t. 13, it was proposed as a new genus *Steuartia*. As to the date of this publication, Pfeiffer, Nomenclator, gives 1743, but the copy of it at the Museum of Comparative Zoology at Harvard contains the penciled memorandum that it came out in 1748. The latter date, as will be shown, is probably correct. Catesby said "For this elegant plant I am obliged to my good friend Mr. Clayton, who sent it me from Virginia, and three months after its arrival it blossomed in my garden at Fulham, in May 1742." Of importance in establishing the date is a letter from John Mitchell quoted by Catesby:

SIR,

The Plant which you shewed me by the name of *Steuartia*, I take to be a new genus of Plants, the same that I called *Malachodendron*.

This item is significant, for in his *Plantarum quaedam Genera recens condita et in Virginia observata* (1748), with no mention of Catesby, Mitchell published his *Malachodendron*, whence Linnaeus derived his specific epithet. He would hardly have written to Catesby in 1742 or 1743 of the plant "that I called *Malachodendron*" five years or more before he published it.

Catesby, calling the shrub *Steuartia*, not mentioning Linnaeus's *Stewartia* of 1741 and implying the publication of a brand new genus, said: "The Right honourable and ingenious Earl of Bute will, I hope, excuse my calling this new genus of Plants after his name." Catesby's beautiful colored plate represents a branch with four expanded flowers, an opened capsule and freed seed, a bird called *Regulus cristatus* and a waspish insect called *Vespa Ichneumon*. This plate,

signed "MC," has the air of originality. Nevertheless, the Ehret plate published by Linnaeus in 1741, "G. D. Ehret delin.," is so like the upper half of the Catesby plate of 1748 (but in black and white), with the drawings of the capsule and seed only slightly different, that the two plates obviously originated with one artist!

In Catesby's original account (1748) the generic name was spelled *Steuartia*. This was repeated in the edition revised by George Edwards, in 1754. But in an edition of 1771, with the Appendix numbered consecutively with vol. ii, page 13 and plate 13 of the original and the 1754 editions becoming page 113 and plate 113, the name was altered to *Stuartia*. Linnaeus, however, in 1753, our starting point, held to his own *Stewartia*.

THE VARIETIES OF *ASCYRUM HYPERICOIDES*. *Ascyrum Hypericoides* L. has long been recognized as a polymorphic species and many binomials have been proposed for forms within its specific bounds. On the other hand, Coulter, after maintaining<sup>1</sup> two species, *A. Cruz-Andreae* L. and *A. Hypericoides* L., gave up the separation and united all the forms as *A. Hypericoides*, saying "they cannot be separated even varietally . . . and the attempt to maintain two distinct species seems untenable. In any event, the North American plant should bear its original Linnaean name."<sup>2</sup>

Our experience in eastern Virginia indicated that some recognition of geographic varieties is desirable. The commoner plant of the Coastal Plain there has tall and erect or strongly ascending stems up to 9 dm. high and usually unbranched or only sparsely branched at base, but with flowering branches from most of the middle and upper axils; with the primary leaves oblong-ob lanceolate, 2-3 cm. long by 5-9 mm. broad; the outer sepals broadly ovate and commonly subcordate, in maturity 10-15 mm. long by 7-10 mm. broad. This tall shrubby plant is characteristic of pine woods and borders of mixed or deciduous woods in the easternmost counties (Princess Anne, Norfolk, Northampton and Accomac), extending inland at least across the Coastal Plain; and, although most material has accumulated from eastern Virginia, this coarsest Coastal Plain extreme is represented by occasional specimens from south to Florida, west to Mississippi, inland to Tennessee and Missouri and north to Worcester County, Maryland.

<sup>1</sup> Coulter in Bot. Gaz. xi. 80, 81 (1886).

<sup>2</sup> Coulter in Gray, Syn. Fl. N. Am. i. 283 (1897).

Much less common in easternmost Virginia is the low, suffruticose plant which extends northward to New Jersey and Nantucket and which ranges broadly through the southern states. In this extreme the suffruticose stem reclines or spreads into low diffuse mats with the new flowering branches 1-2 (rarely -3) dm. long; its larger oblong-oblancheolate leaves are 1-2.3 cm. long by 4-9 mm. wide; the outer sepals elliptic, oval or oblong-ovate and rounded at base, 5-11 mm. long by 3-7 mm. broad. This smaller, lower and diffuse plant was not seen by us in Princess Anne and Norfolk Counties, but we got it in Nansemond, York and Northampton, and in the counties immediately westward and it is represented in the Gray Herbarium from many counties across the state quite to its westernmost border (ascending to 3500 feet).

Extending from Virginia to Florida and the West Indies, westward to Texas and Mexico there is a third extreme, a shrub often as tall as the largest extreme of the series but with leaves linear-oblong or linear-oblancheolate, with crowded axillary fascicles and undeveloped branchlets. In this most southern extreme the principal leaves are 0.5-2 cm. long but only 2-4 (rarely -5) mm. wide; its larger sepals vary from oblong-elliptic to ovate, 5-11 mm. long by 3-5 mm. broad.

Although conspicuously different in their extremes, these three strong trends merge in all characters. I have vainly sought for any satisfactory characters in capsules and seeds and I am forced to the conclusion reached by Coulter, that they are not specifically separable. As already noted, however, I feel that they should be designated as well marked geographic varieties.

As first published by Linnaeus, Sp. Pl. 787 (1753), *Ascyrum* consisted of three species, two of which concern us. The first was *A. Crux-Andraee*, based on *Hypericoides ex terra mariana, floribus exiguis luteis* of Plukenet, "which plant proves upon inspection to be *Hypericum mutilum* L.!"—Torr. & Gray, Fl. N. Am. i. 672 (1840). Subsequently Linnaeus altered his conception of *A. Crux-Andraee*, in Sp. Pl. ed. 2: 1107 (1763) by taking from his citations under his original *A. Hypericoides* a Gronovian reference to the wide-spread low plant of the United States and transferring it to *A. Crux-Andraee*. In this revised sense Torrey & Gray and many later authors took up the latter name, but such a procedure is no longer justified, since *A. Crux-Andraee* of ed. 1 was merely *Hypericum mutilum*.

*Ascyrum Hypericoides* of L. Sp. ed. 1 was a mixture, which was



clearly discussed by Torrey & Gray. Said to come from Virginia, it rested partly upon the Virginian plant of Gronovius, which in the 2d edition Linnaeus transferred to *A. Crux-Andrae*, in part upon a Clifford specimen (not now preserved), in part upon *Hypericoides frutescens erecta* of Plumier (the narrow-leaved West Indian plant) and in part upon a Plukenet plant which is *A. stans* Michx.; certainly a most confused concept. By removing in his 2d edition the Gronovian plant and by deliberately adding to the citations under *A. Hypericoides* Patrick Browne's Jamaican shrub with "foliis linearibus," to which he gave priority of place, Linnaeus established the fact that he ultimately intended principally the linear-leaved shrub of the West Indies. In his monographic and very discerning study of the *Hypericaceae*, *Prodromus d'une Monographie de la Famille des Hypéricinées* (1820), Choisy (p. 61) thus interpreted *A. Hypericoides* and he was followed in the still more extensive but less discerning monograph of Spach.<sup>1</sup> It seems right to follow this interpretation. Spach, however, distinguished the continental plant with linear leaves from the West Indian as *A. linifolium* but the two seem scarcely separable.

The low and matted or diffuse half-shrub of wide range, extending north to southeastern Massachusetts, was first clearly designated as *Ascyrum multicaule* Michx. Fl. Bor.-Am. ii. 77 (1803). Spach gave it several names and it has recently passed on the continent of North America as typical *A. Hypericoides*.

The tall and largest extreme, which occurs from Florida to Mississippi northward on the Coastal Plain to Maryland and inland from Mississippi to the low country of western Tennessee (Carroll Co.) and southeastern Missouri (Dunklin Co.), seems to be *Ascyrum oblongifolium* Spach, Hist. Nat. Vég. v. 461 (1836). His "Plante très-semblable à l'espèce précédente par le porte, mais plus grande dans toutes ses parties. Rameaux inférieurs munis de ramules florifères à presque toutes les aisselles . . . Feuilles en general 2 fois plus grandes que celles de l'espèce précédente" are points which indicate this identity.

As I understand *Ascyrum Hypericoides*, it consists of the following leading varieties.

ASCYRUM HYPERICOIDES, var. **typicum**. *A. Hypericoides* L. Sp. Pl. 788 (1753) as to Plumier's plant (*Hypericoides frutescens erecta, flore luteo*), ed. 2: ii. 1108 (1763); Spach, Hist. Nat. Vég. v. 458 (1836). *A. Crux-Andrae*, β. *angustifolium* Nutt. Gen. ii. 16 (1818). *A. lini-*

<sup>1</sup> Spach, Hist. Nat. Vég. v. 458 (1836).

*folium* Spach, Hist. Nat. Vég. v. 459 (1836).—Ascending shrub with very crowded linear-oblong to linear-oblong leaves, with numerous axillary fascicles and short sterile branchlets; larger leaves 0.5–2 cm. long, 2–4 (–5) mm. wide; larger sepals oblong-elliptic to ovate, 5–11 mm. long, 3.5–9 mm. wide.—West Indies and Florida to Texas and Mexico, north to Bermuda, Virginia and Tennessee.

I have seen no thoroughly characteristic material from Virginia but Choisy, Prodr. Monogr. Hypéric. 61 (1821), under his *A. Cruza-Andraeae*,  $\beta$ . “foliis oblongo-linearibus angustioribus” (based upon Nuttall’s variety), cited it “E Virginiâ (v. s. sp. in h. D. C.).” Much of the material from the inner Coastal Plain of Virginia is transitional between var. *typicum* and var. *oblongifolium*, and Fernald & Long, no. 6275, from south of Zuni, Isle of Wight County, is a near approach to var. *typicum*.

Var. **multicaule** (Michx.), comb. nov. *A. multicaule* Michx. Fl. Bor.-Am. ii. 77 (1803). *A. helianthemifolium* Spach, Hist. Nat. Vég. v. 460 (1836). *A. spathulatum* Spach, l. c. 462 (1836). *A. Cruza-Andraeae* sensu Torr. & Gray, Fl. i. 156 (1838), 672 (1840) and subsequent auth., not L. Sp. Pl. i. 787 (1753).—Low and diffuse or matted, the slender ascending leafy branches 1–2 (–3) dm. long, flowering from the tips and the uppermost axils; larger leaves oblong-oblong, 1–2.3 cm. long, 4–9 mm. broad; outer sepals elliptic, oval or oblong-oblong, rounded at base, 5–11 mm. long, 3–7 mm. broad.—Georgia to eastern Texas, north to Nantucket Island, Massachusetts, New Jersey, Pennsylvania, District of Columbia, West Virginia, Kentucky, southern Illinois, Missouri and Kansas.

Var. **oblongifolium** (Spach), comb. nov. *A. oblongifolium* Spach, Hist. Nat. Vég. v. 461 (1836).—Stems erect or ascending, solitary or few, 3–9 dm. high, simple or but sparsely branched at base, with flowering (often quite elongate) branches from most of the middle and upper axils; leaves oblong-oblong, the primary ones in distant pairs, the larger 2–3 cm. long, 5–9 mm. broad; outer sepals broadly ovate, usually cordate or subcordate at base, 10–15 mm. long, 7–10 mm. broad.—Coastal Plain, Florida to Mississippi, north to eastern Maryland, western Tennessee and southeastern Missouri.

THE VARIETIES OF HYPERICUM § ELODEA. The Marsh St. Johnsworts consist of two clearly defined species, *Hypericum virginicum* L. and *H. petiolatum* Walt., the former wide-ranging from Florida to Newfoundland and eastern Canada, thence westward to Manitoba and Nebraska, the latter typical of cypress- or gum-swamps of the South. A third plant, somewhat intermediate in aspect, in having sessile instead of petioled leaves but with the floral characters of *H. petiolatum*, occurs from Florida to Louisiana and northward into

southern Virginia, southern Ohio, southern Indiana and Missouri. This is *H. tubulosum* Walt. (1788), *Elodea Drummondii* Spach (1836) and *Triadenum longifolium* Small (1898).

The southern material of *Hypericum virginicum* has the mature (fruiting) styles 2-3 mm. long, continuing the gradually tapering capsule, and the mature sepals lanceolate, acute and 5-7 mm. long. This plant occurs from Florida north on the Coastal Plain and in the Piedmont to the lower altitudes of New England and Nova Scotia, inland to Ohio. The more northern material, from Newfoundland and the southern slope of the Labrador Peninsula to Manitoba, Minnesota and Nebraska, all has shorter styles, when mature only 0.5-1 (-2) mm. long, the capsule often plumper and more rounded at summit, though sometimes attenuate, the mature sepals usually oblong or elliptic and rounded or blunt at tip and only 2.5-5 mm. long. The seeds of the northern series average minutely longer than in the southern and in color they are commonly paler and their reticulation is a little fainter; but these characters break in a long series and so many of the long-styled plants have blunt sepals, so many of the short-styled have them acute that I cannot find the constancy I look for in true species. In foliage, too, the two exactly resemble one another. I am, therefore, looking upon them as two very well defined geographic varieties, the long-styled southern and coastwise plant with lanceolate acute sepals being typical *H. virginicum*, which was described by Linnaeus from Pennsylvania and which had the "*Calyx acutus*."

The northern extreme was beautifully described from Canadian specimens as *Elodea Fraseri* Spach in Ann. Sci. Nat. sér. 2, v. Bot. 168 (1836): "*sepalis ellipticis vel oblongis, obtusis; . . . stylis (sub anthesi) ovario subduplo brevioribus.*" As a northern variety it becomes

*HYPERICUM VIRGINICUM* L., var. **Fraseri** (Spach), comb. nov. *Elodea Fraseri* Spach in Ann. Sci. Nat. sér. 2, v. Bot. 168 (1836).—Newfoundland and Canadian Labrador to Manitoba, south to Nova Scotia, northeastern and central Massachusetts, Connecticut, central Pennsylvania, northern Indiana, northern Illinois, Iowa and Nebraska.

As shown in the Gray Herbarium and the Herbarium of the New England Botanical Club, all material from Florida to New Jersey and all from Rhode Island belongs to typical *Hypericum virginicum*; furthermore, all specimens from Newfoundland, the Labrador Peninsula, Quebec, Magdalen Islands, Prince Edward Island, New Bruns-



wick, Ontario, Vermont, Michigan, Indiana, Minnesota, Iowa and Nebraska are var. *Fraseri*. In Nova Scotia, Maine, New Hampshire, Massachusetts, Connecticut, New York and Pennsylvania both varieties are found, but they there usually show clear segregation into southern or lowland and northern or upland series. In Nova Scotia, with its well known admixture of Canadio-Alleghenian and Coastal Plain floras, both are common, but in several counties with little or no development of Coastal Plain plants (Victoria, Pictou, Colchester, Cumberland, and Halifax and on Sable Island) only var. *Fraseri* has been collected. In Maine the long-styled typical *H. virginicum* is in the southern and coastal counties, extending inland to southern Penobscot, Kennebec and Androscoggin; but var. *Fraseri* alone is in the northern three-fourths of the state, extending more locally into the southern counties. In New Hampshire typical *H. virginicum* is in the southern counties (Rockingham, Merrimac and Cheshire), var. *Fraseri* extending over the state. From Massachusetts nearly all the collections are of typical *H. virginicum*, but var. *Fraseri* is represented from the extreme northeastern corner of the state and from the upland of Worcester County. Similarly, from Connecticut most specimens are of typical *H. virginicum*, but var. *Fraseri* is represented from Franklin and Waterbury. The representation from New York and Pennsylvania is too small for generalization, but typical *H. virginicum* extends inland at least to Washington, Chenango and Seneca Counties, New York, with var. *Fraseri* south at least to Washington, Oneida and Cortland Counties. From eastern Pennsylvania all the material is typical *H. virginicum*, the var. *Fraseri* being in the Gray Herbarium only from Center County.

As stated in the first paragraph, the plant recently proposed as a new species, *Triadenum longifolium* Small in Bull. Torr. Bot. Cl. xxv. 140 (1898) (as *T. longifolia*), was well characterized by Walter at the time he published his *Hypericum petiolatum*. Walter recognized three species of this section:

\*\*Stamina in 3 phalangibus. Flores rubescentes. Glandulae inter phalanges.

- |                        |   |
|------------------------|---|
| <i>campanulatum</i> 9. | floribus trigynis, pedunculis trifidis axillaribus oppositis, corollis <i>campanulatis patulis</i> , staminibus <i>laevissime basi coalitis</i> , foliis oblongis obtusis sessilibus. |
| <i>tubulosum</i> 10.   | floribus trigynis, <i>corollis tubulosis</i> , staminum corporibus plusquam ad medium connatis, foliis sessilibus.  |
| <i>petiolatum</i> 11.  | floribus trigynis, staminum corporibus ad medium usque connatis, <i>foliis petiolatis</i> . <sup>1</sup>  |

<sup>1</sup> Walt Fl. Carol. 191 (1788).

Walter's *Hypericum campanulatum* was, obviously, *H. virginicum* L.; his *H. petiolatum* was, as obviously, the plant generally so called; his *H. tubulosum* differed from the latter by the very character used by Small in his Manual to distinguish his own *Triadenum longifolium*; "Leaf-blades sessile, truncate or subcordate at base." In the series of *H. petiolatum* in the Gray Herbarium there is great diversity, some plants showing petioles 1.5 cm. long, others up to 1 cm., still others only 0.5 cm., and still others only 2 or 3 mm. Rugel's material in the Gray Herbarium, bearing the data quoted by Small for the type of his *Triadenum longifolium*, has the lower and median leaves quite like those of *H. petiolatum* except for their lack of petioles. In the series before me it is possible to go from plants with sessile and basally narrowed leaves to those with most of them subamplexicaul. Bush's no. 6312 from Campbell, Missouri and Hale's material from Louisiana have the several upper pairs of leaves with broadly rounded to sub-clasping bases. I can find no floral differences. On the bottomlands of the Nottoway River in Greensville County, Virginia, Mr. Bayard Long and I had the opportunity to compare them side-by-side. The flowers were essentially alike, both with *recurving* small petals. I am, therefore, calling the sessile-leaved plant

*HYPERICUM PETIOLATUM* Walt., var. **tubulosum** (Walt.), comb. nov. *H. tubulosum* Walt. Fl. Carol. 191 (1788). *Elodea Drummondii* Spach in Ann. Sci. Nat. sér. 2, v. Bot. 167 (1836)—"foliis . . . caulinis rameisque inferioribus oblongo-spathulatis, sessilibus; superioribus ovalibus vel oblongis, amplexicaulibus, basi cordatis." *Triadenum longifolium* Small in Bull. Torr. Bot. Cl. xxv. 40 (1898).

Small, in his original publication of *Triadenum longifolium*, said "The sepals are lanceolate and acuminate, as contrasted with the oblong, obtuse sepals of *T. petiolatum*." To some extent the difference in sepal-shape parallels that in the two extremes of *Hypericum virginicum*; in the ISOTYPE in the Gray Herbarium of *T. longifolium* the sepals are the narrowest and most attenuate I have seen, but in the Bush material, above cited, from Campbell, Missouri, a plant with the foliage-characters of most extreme *T. longifolium*, the sepals are as broad and as blunt as in the best *H. petiolatum*.

*VIOLA STONEANA* House. PRINCESS ANNE COUNTY: rich dry woods, Little Neck, *F. G. & L.*, no. 4677.

Apparently the southern limit.

\**V. ESCULENTA* Ell. NORFOLK COUNTY: dry roadside bank, near Gertie, *F. & G.*, no. 4465.

First from north of South Carolina.

\**V. AFFINIS* Le Conte, var. *LANGLOISII* (Greene) Griscom. NORFOLK COUNTY: sandy bank, east of North Landing, *F. & G.*, no. 4457.

First from north of northern Florida.

*V. SAGITTATA* Ait. PRINCESS ANNE COUNTY: clay of roadside, east of Little Creek, *F. & G.*, no. 4464.

Not noted by Kearney.

\**AMMANNIA KOEHNEI* Britton, var. *exauriculata*, var. nov. (TAB. 449, FIGS. 4 et 5), planta perennis basi prolongato decumbenti; foliis spathulatis vel late oblanceolatis omnibus basi attenuatis vel angustatis, superioribus nec basi dilatato-subcordatis; petalis nullis.—VIRGINIA: fresh to brackish swales along North Landing River, near Creed's, Princess Anne County, September 9, 1935, *Fernald, Long & Fogg*, no. 4954 (TYPE in Gray Herb., ISOTYPES in Herbs. Phil. Acad. and Univ. Penn.).

Var. *exauriculata* is a very extreme departure from typical *Ammannia Koehnei* in having all the leaves narrowed to base (FIG. 5) and in having a prolonged and decumbent base (FIG. 4). Typical *A. Koehnei* (FIGS. 1 and 2) has the erect or ascending stem rising directly from the annual base and its upper leaves are auriculate or subcordate-clasping (FIG. 3). Although the wide-ranging plant sometimes has small petals, they are, as originally described by Britton, "fugacious," so much so that it is an exceptional plant which displays them. Our material seems to be quite apetalous, but it is so mature that petals, if they occurred, would have fallen. I get no difference of calyx and seeds between the two. I am consequently treating the plant of North Landing River as a variety. The typical annual *A. Koehnei* is 0.8–5 dm. high; the loosely ascending or reclining leafy stems of var. *exauriculata* are 2.5–7 dm. long.

North of Florida typical *Ammannia Koehnei* is a very localized plant. I have before me all the material in the Herbarium of the New York Botanical Garden, kindly sent by Dr. Gleason. This, with the representation in the Gray Herbarium, comes from the following scattered stations:

NEW JERSEY: Hackensack Marshes, *Torrey, Leggett*.

VIRGINIA: tidal marsh, Carter's Creek, at south shore of York River, *Grimes*, no. 4271.

NORTH CAROLINA: sand banks near Beaufort, *I. F. Lewis*, no. 189; "Sea islands," *M. A. Curtis*.

FLORIDA: shores of river near Jacksonville, *Curtiss*, no. 5133; shores and ditches, Indian River, *Curtiss*, no. 949; Titusville, *Nash*,



no. 2288; swamps, Okeechobee region, Brevard County, *Fredholm*, no. 5982; sandy shore, Orange County, *Fredholm*, no. 5426; pinelands near Felsmere, *Small*, no. 8881; pineland, Fort Myers, *J. F. Standley*, no. 392; Terra Ceia Island, *Simpson*, no. 407; Key West, *Blodgett*.

MISSISSIPPI: Heron Island, *Tracy*, no. 6424.

*LUDWIGIA GLANDULOSA* Walt. Recorded in RHODORA, xxxvii. 433 (1935) from a single station in Norfolk County, the first record from north of South Carolina. Now known to be frequent from Princess Anne County westward to the Fall Line. The following specimens are before me. PRINCESS ANNE COUNTY: wet argillaceous thickets and ditches, Rosemont, *F. & L.*, no. 4960. NANSEMOND COUNTY: roadside ditch at border of woods, Magnolia, *F. L. & F.*, no. 4963. SOUTHAMPTON COUNTY: argillaceous ditch south of Sebrell, *F. & L.*, no. 6309. GREENSVILLE COUNTY: sandy alluvium, bottomlands of Fontaine Creek, southwest of Haley's Bridge, *F. G. & L.*, no. 6653. PRINCE GEORGE COUNTY: swampy clearing near Gary Church, *F. & L.*, no. 6307; alluvial woods of Second Swamp, north of Baxter Crossing, *F. & L.*, no. 6308. NEW KENT COUNTY: ditches near Providence Forge, *F. G. & L.*, no. 6654, the northernmost recorded station.

\**L. ALATA* Ell. PRINCESS ANNE COUNTY: fresh to brackish swales along North Landing River, near Creed's, *F. L. & F.*, no. 4960.

First from north of North Carolina.

*L. BREVIPES* (Long) E. H. Eames. Additional station in PRINCESS ANNE COUNTY: peaty margin of cove, southern end of Lake Joyce, *F. L. & F.*, no. 4964.

\**L. PALUSTRIS* (L.) Ell., var. *NANA* Fern. & Grisc. in RHODORA, xxxvii. 176, t. 349, figs. 6 and 10 (1935). ACCOMAC COUNTY: depression in clearing in pine woods,  $3\frac{1}{2}$  miles north of Accomac, *F. L. & F.*, no. 5390. PRINCE GEORGE COUNTY: swampy clearing near Gary Church, *F. & L.*, no. 6310. SUSSEX COUNTY: water-hole in sandy and peaty depression (exsiccated shallow pond), about 4 miles northwest of Homeville, *F. & L.*, no. 6311. Noticed but not collected at numerous stations from Prince George, Sussex and Southampton Counties to Nansemond County.

Extension north from southern Georgia.

*MYRIOPHYLLUM PINNATUM* (Walt.) BSP. Frequent in PRINCESS ANNE COUNTY: shallow water, south end of Fresh Pond, *L. F. & F. R. Randolph*, no. 483; ditch near Sigma, *F. G. & L.*, no. 4680; border of brackish marsh, Cedar Island, *F. G. & L.*, no. 4681.

Not listed by Kearney nor by Erlanson.

*ERYNGIUM AQUATICUM* L. To the few recorded stations add PRINCESS ANNE COUNTY: fresh to brackish swales along North Landing River, near Creed's, *F. L. & F.*, no. 4967.

*LILAEOPSIS CHINENSIS* (L.) Kuntze. To the few recorded Virginia stations add PRINCESS ANNE COUNTY: muddy banks and open spots



Photo. E. C. Ogden.

AMMANNIA KOEUNEI: FIGS. 1 and 2, TYPE,  $\times \frac{1}{2}$ ; FIG. 3, upper leaf-bases,  $\times 2$ .

A. KOEUNEI, var. EXAURICULATA: FIG. 4, plant from TYPE-COLLECTION,  $\times \frac{1}{2}$ ; FIG. 5, upper leaf-bases,  $\times 2$ .

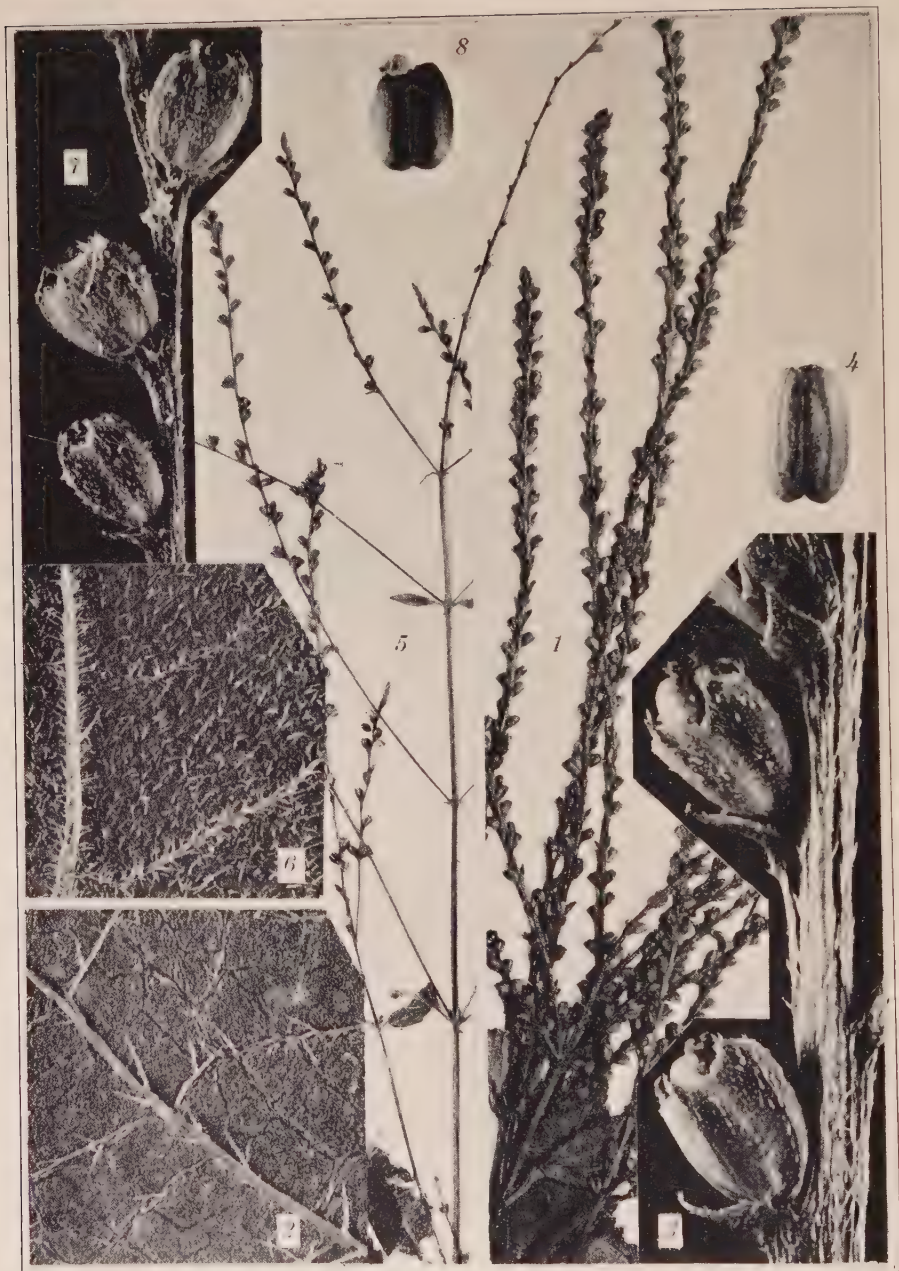


Photo. E. C. Ogden.

*VERBENA URTICIFOLIA*: FIG. 1, fruiting inflorescence,  $\times 1$ ; FIG. 2, lower surface of leaf,  $\times 10$ ; FIG. 3, fruiting calyces,  $\times 10$ ; FIG. 4, ripe fruit,  $\times 10$ .

*V. URTICIFOLIA*, var. *LEIOCARPA*: FIG. 5, portion of fruiting panicle,  $\times 1$ ; FIG. 6, lower surface of leaf,  $\times 10$ ; FIG. 7, fruiting calyces,  $\times 10$ ; FIG. 8, ripe fruit,  $\times 10$ .



in swales along North Landing River, near Creed's, *F. L. & F.*, no. 4972. SURRY COUNTY: turfy tidal shore of James River, Claremont Wharf, *F. & L.*, no. 6847.

RHODODENDRON ATLANTICUM (Ashe) Rehder. Frequent in dry woods, oak scrub and pinelands, from PRINCESS ANNE to SUSSEX COUNTY: many nos.

Not noted by Kearney nor by Erlanson.

R. NUDIFLORUM (L.) Torr. Swampy woods, common in PRINCESS ANNE and NORTHAMPTON COUNTIES: many nos.

Not noted by Kearney.

GALAX APHYLLA L. PRINCESS ANNE COUNTY: rich woods east of Little Creek, *F. & G.*, no. 4490, *F. L. & F.*, no. 4985. ISLE OF WIGHT COUNTY: rich wooded bank of Blackwater River, near Joyner's Bridge, *F. G. & L.*, no. 6668.

Not mentioned by Kearney.

LIMONIUM NASHII Small, var. TRICHOGONUM Blake. NORTHAMPTON COUNTY: border of salt marsh east of Eastville, *F. & L.*, no. 5409.

L. CAROLINIANUM (Walt.) Britton, var. ANGUSTATUM (Gray) Blake. PRINCESS ANNE COUNTY: salt marsh, arm of Lynnhaven Bay, at Third Street Bridge, Great Neck, *F. & L.*, no. 4986.

Not listed by Kearney.

\*HOTTONIA INFLATA L. PRINCESS ANNE COUNTY: pool in gum swamp, west of Pungo, *F. & G.*, no. 4491.

First specimen in the Gray Herbarium from between southern New Jersey and Georgia.

BUMELIA LYCIOIDES (L.) Gaertn. f., var. **virginiana**, var. nov., foliis ramorum fertilium oblanceolatis, 1.3–2.8 cm. latis, apicibus valde rotundatis.—VIRGINIA: edge of tidal marsh, Carter's Creek, York River, August 20, 1921, *E. J. Grimes*, no. 4269; Sewell's Point, Norfolk County, June 28, 1872, *A. H. Curtiss*; dry wooded slope near 3d Street Bridge, Great Neck, Princess Anne County, May 5, 1935, *Fernald & Griscom*, no. 4492 (young foliage), June 17, 1935, *Fernald, Griscom & Long*, no. 4688 (young flower-buds), September 5, 1935, *Fernald & Long*, no. 4987 (fruit), TYPE in Gray Herb.; rich dry woods, Little Neck, Princess Anne County, September 6, 1935, *Fernald & Long*, no. 4988.

*Bumelia lycioides* rests, nomenclaturally, upon *Sideroxylon lycioides* L. Sp. Pl. ed. 2: 279 (1762), said to grow in "Canada." Linnaeus cited references from Duhamel de Monceau and Boerhaave but his species must rest primarily on his own *Lycioides*, Hort. Cliff. 488. In Hortus Cliffortianus Linnaeus stated that the tree came from the East Indies or perhaps from Africa ("Crescit vel in India Orientali?

vel potius in Africa?"). It is now generally recognized as the characteristic Carolina Buckthorn of the southern United States.

The tree usually passing as *Bumelia lycioides* has the mature leaves of the fruiting branches (excluding those of the sprouts and leading shoots) elliptic-oblong to narrowly obovate, tapering to a blunt but subacuminate apex, and becoming 2-3.8 cm. broad. This tree, occurring from Florida to Texas, extends north into North Carolina, western Kentucky, southern Illinois, southern Missouri and Kansas. The tree of southeastern Virginia always, so far as known (from four areas), has the leaves of the fertile branches strongly rounded at apex and when mature only 1.3-2.8 cm. broad, and so far as we yet know this tree with narrower and round-tipped leaves occurs only at this northeastern limit of the specific range.

In view of the original obscurity as to the geographic source of *Lycioides*, I asked Mr. C. A. Weatherby to determine, while in England in the summer of 1935, just what Linnaeus had before him. He reports that there is no Clifford specimen at the British Museum, but that in the Linnean Herbarium the material marked in the hand of Linnaeus "*lycioides*" is of the characteristic southern tree with the narrowly obovate leaves abruptly narrowed to a blunt apex; a photograph secured by Mr. Weatherby confirms this identification. Incidentally, Mr. Weatherby determined that *Sideroxylon laeve* Walt. Fl. Carol. 100, is also the more southern tree with subacuminate leaves. In this connection it is at least noteworthy that Sargent, in the *Silva*, should have described the leaves as "acute and rounded at apex" but that Faxon's plate<sup>1</sup> should have shown the flowering branch of var. *virginiana*, with the leaves unquestionably round-tipped. This drawing was obviously made from the Curtiss material from Norfolk County.

Whether or not the specific name "*lycioides*" should be written with a capital or a small initial is debatable. By the International Rules, Recommendation no. XLII, the specific epithet takes a capital initial when taken from a generic name. The question is whether *Lycioides* of Linnaeus, *Hortus Cliffortianus*, was a generic name. At the end of his Class XXV in the latter work, Linnaeus, after properly treating unquestioned genera, such as *Cycas*, *Trapa*, *Conocarpus*, *Liquidambar*, *Zanthoxylum*, etc., had a nondescript category "*Oidea*," for plants of which he did not have the necessary flowers to place them in the

<sup>1</sup> Sargent, *Silva*, v. t. ccxlviii.

regular genera. He treated these as *hypothetical* genera, giving them provisional names indicating their similarity to recognized genera: *Oleoides*, *Cannoides*, *Lycioides*, etc., the last "*Facies perfecte Lycii, tristis*," etc. If *Lycioides* be considered a generic name, then the specific name repeating it should be given a capital initial. The fact, that in publishing *Sideroxylon lycioides* Linnaeus used a small initial, has only a minor bearing on the question, for in some other cases Linnaeus used lower-case initials for old generic names used as specific epithets. I am keeping, however, to the long established usage. It might be thought by some that Linnaeus, whose names and often quite inconsistent and frequently unidentifiable species are usually overglorified, was violating the provisions of the 1935 rules in publishing hypothetical or provisional genera. I leave the decision on that point to those who are better able to solve such problems.

FRAXINUS PENNSYLVANICA Marsh. NORFOLK COUNTY: gum swamps and wet woods near Indian Creek, *F. G. & L.*, no. 4690. Thence westward to the Fall Line.

Not listed by Kearney.

GENTIANA PARVIFOLIA (Chapm.) Britton. NORTHAMPTON COUNTY: wet pine woods, Eastville, *F. & L.*, nos. 4714, 4717; by brook in swampy woods south of Kendall Grove, *F. L. & F.*, no. 4515. ACCOMAC COUNTY: border of low woods, 2 miles south of Painter, *F. L. & F.*, no. 5416; border of low woods, 1½ miles north of Temperanceville, *F. L. & F.*, no. 5418. Westward to ISLE OF WIGHT and western NANSEMOND COUNTIES.

Extensions north and west from Princess Anne County.

G. VILLOSA L. PRINCESS ANNE COUNTY: rich dry woods, Great Neck, *F. & L.*, no. 4993; rich woods, Virginia Beach, *F. L. & F.*, no. 4994. NANSEMOND COUNTY: dry sandy woods and adjacent clearings, Kilby, *F. L. & F.*, nos. 4995, 4997.

Not listed by Kearney.

IPOMOEA LACUNOSA L. PRINCESS ANNE COUNTY: grassy roadside, Pleasant Ridge, *F. L. & F.*, no. 5008; roadside-banks and fence-rows near Creed's, *F. L. & F.*, no. 5009.

Not listed by Kearney nor by Erlanson.

PHLOX PANICULATA L. PRINCESS ANNE COUNTY: roadside-banks and fence-rows near Creed's, *F. L. & F.*, no. 5012.

Not listed by Kearney nor by Erlanson.

\*VERBENA URTICIFOLIA L., var. *leiocarpa* Perry & Fernald, var. nov. (TAB. 450, FIGS. 5-8), foliis subtus minute velutino-hirtellis, pilis longioribus vix 0.3 mm. longis; ramis floriferis filiformibus laxe



adscendentibus vel divergentibus puberulis; bracteis 0.5–1 mm. longis; calycibus maturis 1.7–2 mm. longis puberulis; coccis 1.5 mm. longis lucidis dorso planis.—Eastern Virginia to South Carolina, rarely northward to Connecticut. CONNECTICUT: damp woods, Wethersfield, *Charles Wright*. NEW JERSEY: sandy loam by Maurice River, Port Elizabeth, November 8, 1936, *Long*. VIRGINIA: rich woods, Virginia Beach, September 10, 1935, *Fernald, Long & Fogg*, no. 5013 (TYPE in Gray Herb.); rich sandy and loamy wooded slope north of Walters, August 20 and 22, 1936, *Fernald, Griscom & Long*, no. 6674; border of dry sandy woods, 4 miles south of Stony Creek, August 19, 1936, *Fernald, Griscom & Long*, no. 6673; rich woods southeast of Ivor, October 16, 1936, *Fernald & Long*, no. 6864. NORTH CAROLINA: moist ground, Durham Co., August 26, 1932, *H. L. Blomquist*, no. 149. SOUTH CAROLINA: damp gum-oak woods, 1 mile north of Kingstree, Williamsburg Co., July 11, 1927, *Wiegand & Manning*, no. 2714.

Common and wide-ranging typical *Verbena urticifolia* has the leaves strigose-hirsute on the veins beneath (FIG. 2) with stiff hairs up to 1–1.3 mm. long, or glabrate; the mature inflorescence (FIG. 1) with usually stiffly ascending strigose branches; mature calyx (FIG. 3) strigose, 2–2.3 mm. long, the subtending bract 1–1.5 mm. long; mature nutlets (FIG. 4) about 2 mm. long and definitely corrugated or ribbed on the back. Var. *leiocarpa*, on the other hand, has the thin leaves (FIG. 6) velutinous or subvelutinous beneath with minute hairs only very rarely 0.3 mm. long; the panicle (FIG. 5) lax, with loosely ascending to divergent puberulent, filiform mature branches; the mature calyx (FIG. 7) at most 2 mm. long and puberulent, with very short (0.5–1 mm. long) bract; and the tiny nutlets (FIG. 8) only 1.5 mm. long and quite smooth on the back. Although an old and undated sheet from Connecticut is in the Gray Herbarium, no other material is found there or in the extensive local collection of the New England Botanical Club from north of New Jersey.

*Verbena urticifolia*, var. *leiocarpa*, although having the same general lax habit as \**V. scabra* Vahl, collected by *Fernald & Long* in SURRY COUNTY, October, 1936 (border of tidal marsh along Gray's Creek, near Cross Creek Landing, south of Swann Point, no. 6863, the first collection from north of Wilmington, North Carolina), may be readily distinguished in flower by the bilobed character of the stigma, the stigmatic surface being subtended by one sterile lobe. In *V. scabra*, on the other hand, the stigmatic surface lies between two almost equal sterile lobes. The fruiting calyx of *V. urticifolia*, var. *leiocarpa* is only slightly divergent from the rachis and the nutlets are smooth; whereas, in *V. scabra* the fruiting calyx is strongly divergent and the

nutlets reticulate above. Furthermore, after drying, the plants in question are easily separable on foliar character, the upper surface of the leaves of *V. urticifolia*, var. *leiocarpa* being much less harsh to the touch than those of *V. scabra*.

*V. CANADENSIS* (L.) Britton. PRINCESS ANNE COUNTY: roadside bank, Creed's; *F. & G.*, no. 4496.

In Dr. Perry's *Revision of the North American Species of Verbena* (Ann. Mo. Bot. Gard. xx. 316 (1933) ) recorded northward only to North Carolina but Small (Man.) extends the range to Virginia.

*STACHYS HYSSOPIFOLIA* Michx. YORK COUNTY: exsiccated clay-bottomed pond in woods, 2 miles south of Yorktown, *F. L. & F.*, no. 5016.

Not listed by Erlanson. According to Epling, Prelim. Revis. Am. Stachys in Fedde, Repert. Sp. Nov. Reg. Veg. Beih. lxxx. 71 (1934) the species "ranges from Eastern Massachusetts along the coast to New Jersey and Delaware, thence inland to eastern Pennsylvania. It occurs also in the Appalachian system in northern Virginia and in western North Carolina." Our station is, therefore, the first on the Coastal Plain south of Delaware.

*S. TENUIFOLIA* Willd. PRINCESS ANNE COUNTY: wet argillaceous thickets and ditches, Rosemont, *F. & L.*, no. 5017.

Not listed by Kearney nor by Erlanson.

*HEDEOMA PULEGIODES* (L.) Pers. NORTHAMPTON COUNTY: dry clearing bordering pine woods, south of Kendall Grove, *F. L. & F.*, no. 5435.

Not listed by Kearney nor by Erlanson.

\**LINARIA CANADENSIS* (L.) Dumont, forma **cleistogama**, f. nov., corollis minutis tubulosis vel subconicis e calyce vix exsertis clausis. —VIRGINIA: sandy pineland, Cape Henry, May 4, 1935, *Fernald & Griscom*, no. 4498 (TYPE in Gray Herb.; ISOTYPES in Herbs. Griscom and Phil. Acad.); sandy woods and openings, False Cape, June 20, 1935, *Fernald, Griscom & Long*, no. 4698.

Late in the season the flowers of *Linaria canadensis* may become greatly reduced in size, though morphologically normal. Forma *cleistogama* at Cape Henry and at False Cape was abundant in the dry sand, the vernal flowers quite insignificant and completely closed, forming a blunt cap above the ovary.

*GERARDIA DECEMLOBA* Greene. NANSEMOND COUNTY: dry sandy woods and adjacent clearings, Kilby, *F. L. & F.*, no. 5034.

Not listed by Kearney. The easternmost Virginia station given by

Pennell, Proc. Acad. Nat. Sci. Phila. lxxxi. 208 (1929), is New Bohemia in PRINCE GEORGE COUNTY. Kilby is 50 miles southeast of New Bohemia, well out on the Coastal Plain.

\*UTRICULARIA VIRGATULA Barnhart. NORTHAMPTON COUNTY: moist dune-hollows, Savage Neck, *F. L. & F.*, no. 5450.

An important discovery, giving us a station intermediate between Cape May, New Jersey and Florida and Cuba. When he published the species in Bull. Torr. Bot. Cl. xxxiv. 580 (1907) Barnhart had seen material only from Long Island, from Cape May and from Florida and Cuba, the "resemblance [of the latter to the Long Island and Cape May material] is indeed so close that I am unable to name any character by which they may be distinguished. . . it seems better to refer the material from Cuba and Florida provisionally to *U. virgatula*." On Savage Neck several other species, far isolated from their allies occur: *Cyperus Engelmanni* at its first station south of New York (see p. 395), *Carex arenaria* of Atlantic Europe (see p. 399), *Wolffia punctata* at its first coastwise station north of Florida (see p. 400) and *Cassia nictitans* var. *hebecarpa*, otherwise known only in North Carolina (see p. 423).

EPIFAGUS VIRGINIANA (L.) Bart. PRINCESS ANNE COUNTY: under *Fagus*, dry woods west of Pungo, *F. & G.*, no. 5037.

Not listed by Kearney.

HOUSTONIA PURPUREA L., forma **pubescens** (Britton), comb. nov. *H. purpurea*, var. *pubescens* Britton, Mem. Torr. Bot. Cl. iv. 125 (1894).—Our material is from NORTHAMPTON COUNTY: dry pine woods east of Eastville, *F. & L.*, no. 5470.

Forma *pubescens* at Eastville and at a number of other stations occurs with or near to typical smoother *Houstonia purpurea*. It seems to be a pubescent form, rather than a geographically isolated variety.

\*CEPHALANTHUS OCCIDENTALIS L., var. PUBESCENS Raf. PRINCESS ANNE COUNTY: wet argillaceous thickets, Rosemont, *F. & L.*, no. 5047. ELIZABETH CITY COUNTY: marshy borders of woods between Buckroe and Hampton, *B. L. Robinson*, no. 445.

First in the Gray Herbarium from north of Georgia.

GALIUM UNIFLORUM Michx. Recorded from PRINCESS ANNE COUNTY, new to Virginia, in RHODORA, xxxvii. 446 (1935). Range now extended northward and westward. NORTHAMPTON COUNTY: sandy woods back of dunes, Savage Neck, *F. & L.*, no. 5457; dry pine woods south of Kendall Grove, *F. L. & F.*, no. 5458. ISLE OF WIGHT



COUNTY: rich sandy and loamy wooded slope north of Walters, *F. G. & L.*, no. 6697.

Ripe fruit purple-black, succulent.

*VIBURNUM PRUNIFOLIUM* L. PRINCE GEORGE COUNTY: border of rich dry woods, Great Neck, *F. G. & L.*, no. 4705. NORFOLK COUNTY: damp thicket, Cedar Hill, *F. & G.*, no. 4508. Thence west to the Fall Line.

Not recorded by Kearney from east of Nansemond County.

*LOBELIA ELONGATA* Small. To the type-locality, Northwest in NORFOLK COUNTY, cited by McVaugh in *RHODORA*, xxxviii, 286, add PRINCESS ANNE COUNTY: brackish marsh by North Landing River, Pungo Ferry, *F. & G.*, nos. 2946, 2947, also at same station (near Creed's),<sup>1</sup> *F. L. & F.*, no. 5053.

*ELEPHANTOPUS CAROLINIANUS* Willd. PRINCESS ANNE COUNTY: rich woods, Virginia Beach, *F. & G.*, no. 2896, *F. L. & F.*, no. 5058. NANSEMOND COUNTY: dry sandy woods along Pitch Kettle Creek, north of Lake Kilby, *F. L. & F.*, no. 5059. Thence west to the Fall Line.

Not listed by Kearney.

*E. TOMENTOSUS* L. PRINCESS ANNE COUNTY: rich woods, Virginia Beach, *F. L. & F.*, no. 5056. Thence westward to the Fall Line. NORTHAMPTON COUNTY: in *Pinus Taeda* forests about Cape Charles, *Tidestrom*, no. 11,595; dry sandy pine woods, Eastville, *F. & L.*, no. 5480.

Not listed by Kearney. The species is not recorded for Maryland by Shreve. We found it in some abundance, when, returning by car to Philadelphia, we stopped at twilight to collect *Nyssa sylvatica*, var. *biflora* (Walt.) Sarg., near its northern limit. At the base of a tree covered with *Bignonia capreolata*, also near its northern limit, *Elephantopus tomentosus* was abundant: border of gum swamp, south of Beaver Dam, along Wagram Creek, Worcester County, MARYLAND, *F. L. & F.*, no. 5574.

*ELEPHANTOPUS TOMENTOSUS* L., forma **rotundatus**, forma nov., foliis rotundato-obovatis vel rotundato-ovalibus.—VIRGINIA: dry

<sup>1</sup> Although appearing on the contour-sheet as Pungo Ferry, this region supports no ferry. Visiting it in 1935, Long, Fogg, and I wished to secure a boat. The locked boat on the river evidently pertained to the nearest house. Accordingly, untying the gate, I walked across the field to the door. Upon knocking, I was seized by my right calf by a yapping dog. As soon as the women folks had dragged her off and administered the necessary slaps my errand was transacted. If I wanted a boat "Bub" must be asked. "Bub," six feet tall and asleep at high-noon with his bare feet overhanging a bed in the kitchen, awoke and said: "Ask Paw." "Paw," roused from another bed, agreed, for sufficient pay, to let us take the boat. The compensation and a gift of grapes for all the family sweetened the atmosphere: "De nex time you alls want de boat dat bitch'll know enough to let you alone."

clearing bordering pine woods south of Kendall Grove, Northampton Co., October 13 and 15, 1935, *Fernald, Long & Fogg*, no. 5482 (TYPE in Gray Herb.).

Typical *Elephantopus tomentosus* has the narrowly to broadly obovate rosette-leaves tapering at base and once-and-a-half to thrice as long as broad, and its cauline bracteal leaves narrow and small. Forma *rotundatus*, with its round-based and round-tipped short rosette-leaves and broad and numerous cauline ones is a striking departure from it. This extreme variation may have resulted from clearing of the land but all the plants in a clearing of many acres were essentially uniform. A similar specimen in the Gray Herbarium, without rosette-leaves, but with the lower cauline one strongly rounded at both ends or even subcordate, was sent from Mississippi by Dr. Crockett (through C. W. Short, who commented on the "odd leaf").

SOLIDAGO PUBERULA Nutt., var. PULVERULENTA (Nutt.) Chapm. Noted in RHODORA, xxxvii. 447 (1935) from PRINCESS ANNE COUNTY. Range extended to ELIZABETH CITY COUNTY: bushy clearings and borders of woods west of Hampton, *F. L. & F.*, no. 5083.

S. PINETORUM Small. Recorded in RHODORA, l. c. 448 from PRINCESS ANNE, HENRICO and PITTSYLVANIA COUNTIES. Range extended slightly north to YORK COUNTY: border of dry woods, 2 miles south of Yorktown, *F. L. & F.*, no. 5086. Common inland to the Fall Line.

S. YADKINENSIS (Porter) Small. See Fernald, RHODORA, xxxviii. 211 (1936). NANSEMOND COUNTY: dry sandy woods and adjacent clearings, Kilby, *F. L. & F.*, no. 5084; Suffolk, July 24, 1872, *A. H. Curtiss*, as *S. Boottii*, also *Heller*, no. 1127, as *S. Boottii*. Frequent westward to the Fall Line and beyond.

Flowering chiefly in late June and July.

S. LUDOVICIANA (Gray) Small. See Fernald, l. c. 200, pl. 422, figs. 2-5 (1936). NORTHAMPTON COUNTY: dry pine woods northwest of Oyster, *F. L. & F.*, no. 5512. JAMES CITY COUNTY: old grown-up field, south of Williamsburg, *Grimes*, no. 4445, as *S. Boottii*. PRINCE GEORGE COUNTY: dry sandy woods and clearings west of New Bohemia, *F. L. & S.*, no. 5932; dry woods, Blackwater School, *F. L. & S.*, no. 5933.

Very late-flowering, in late September and October.

S. NEMORALIS Ait., var. HALEANA Fernald, l. c. 227, pl. 431, figs. 1 and 2 (1936). NORTHAMPTON COUNTY: dry pine woods near Capeville, *F. L. & F.*, no. 5526; *F. & L.*, nos. 5524 and 5525, from Eastville, are less characteristic.

S. TORTIFOLIA Ell. Recorded in RHODORA, xxxvii. 448 (1935) from PRINCESS ANNE COUNTY, where local. NORTHAMPTON COUNTY: common in dry pine woods, many nos., one plant on Savage Neck (*F. & L.*, no. 5517) being an evident hybrid with *S. odora*.



Photo. E. C. Ogden.

ASTER SPECTABILIS, var. SUFFULTUS,  $\times \frac{1}{3}$ .





Photo. E. C. Ogden.

INVOLUCRES OF ASTER,  $\times 4$ : *A. SPECTABILIS*, FIGS. 2 and 3; *A. SPECTABILIS*, var. *SUFFULTUS*, FIG. 1; *A. CURTISHII*, FIG. 4.

It is probable that the northeastern limit of range of *Solidago tortifolia* is in Northampton or Accomac County. It has been cited from Maryland on the basis of the confusing blanket-label of the late William M. Canby: "EASTERN SHORE OF MARYLAND AND VIRGINIA." Under this label Canby distributed abundant material. Very similar specimens in the Gray Herbarium bear the memorandum in the hand of Asa Gray: "Northampton Co., Virginia. E. Shore, 1867. W. M. Canby."

S. ELLIOTII T. & G., var. *PEDICELLATA* Fernald in RHODORA, xxxviii. 215, pl. 425 (1936). The TYPE is from NORTHAMPTON COUNTY: border of wet pine woods, Eastville, F. & L., no. 5520. Immature specimens from near Hampton (F. L. & F., no. 5091) apparently belong with it.

Very late, flowering in mid-October.

\**ASTER SPECTABILIS* Ait., var. *suffultus*, var. nov. (TAB. 451 et TAB. 452, FIG. 1), planta 6-9 dm. alta; pedunculis glanduloso-pilosis; involucris subcylindrico-campanulatis 1.4-1.6 cm. altis; bracteis ca. 8-seriatis valde squarrosis, apicibus exteriorum valde foliaceis ovatis margine glanduloso-ciliatis.—VIRGINIA: bushy clearings and borders of woods, west of Hampton, September 13, 1935, Fernald, Long & Fogg, no. 5096 (TYPE in Gray Herb.).

Typical *Aster spectabilis*, occurring from eastern Massachusetts to Delaware and Maryland and reappearing in the Carolina mountains, is usually 2.5-6 (rarely -8) dm. high; with campanulate or (when dry) campanulate-hemispheric involucre (PL. 452, FIGS. 2 and 3) 0.8-1.4 cm. high; the bracts in about 6 series, the outer with oblong or oblanceolate, herbaceous tips loosely ascending to slightly squarrose. Isolated southward, on the southern coast of North Carolina, var. *cinerascens* Blake in RHODORA, xxx. 226 (1928), differs from typical *A. spectabilis* in its cinereous-hirsute and less glandular indument, but the involucre is otherwise much as in the more northern typical *A. spectabilis*. Var. *suffultus*, also isolated from the continuous range of *A. spectabilis*, has an involucre almost as suggestive of *A. Curtisii* T. & G. (PL. 452, FIG. 4) as of *A. spectabilis*, but *A. Curtisii* is a thin- and glabrous-leaved plant, with glandless and glabrous, broad involucre. *A. spectabilis*, var. *suffultus* has the glandular peduncles and involucre and the characteristic scabrous foliage of *A. spectabilis*.

Torrey & Gray, Fl. ii. 108 (1841), extended the range of *A. spectabilis* south to Florida. This is extremely doubtful. The Torrey & Gray material in the Gray Herbarium which was reputed to come from Florida was labeled in Gray's hand "Florida? Croom" and "β.", which

means that it was *A. spectabilis*,  $\beta$ . T. & G., l. c. with "flowering branches, or peduncles, few and slender, mostly simple, pilose with slender hairs as well as glandular-pubescent." This plant, type of *A. spectabilis*,  $\beta$ ., is Blake's var. *cinerascens*; and it is significant that above his original "Florida? Croom" Gray later wrote in pencil "Perhaps N. Car." That is more probable.

Another old sheet in the Gray Herbarium, identified by Gray as *A. surculosus*, is marked "Herb. Raf. [inesque], 1842. Locality unrecorded." This consists of a plant of *A. spectabilis*, var. *cinerascens* and a characteristic top of the newly proposed var. *suffultus*. It is possible that Rafinesque had, presumably buried under some other genus, names for both these plants.

ASTER GRACILIS Nutt. PRINCESS ANNE COUNTY: argillaceous clearings and borders of woods, Virginia Beach, *F. & L.*, no. 5097. NANSEMOND COUNTY: about Suffolk, *Heller*, no. 1140; dry sandy woods and adjacent clearings, Kilby, *F. L. & F.*, no. 5098. Thence west to the Fall Line.

Not recorded by Kearney from Virginia.

A. GRANDIFLORUS L. NANSEMOND COUNTY: dry sandy woods and adjacent clearings, Kilby, *F. L. & F.*, no. 5099. Thence west to the Fall Line and northward at least to HANOVER COUNTY: October 10, 1890, *T. C. Porter*.

An October-flowering species, very handsome. Not noted by Kearney.

A. CONCOLOR L. NORTHAMPTON COUNTY: sandy and argillaceous bluff and upper border of beach, Chesapeake Bay, west of Kiptopeke, *F. L. & F.*, no. 5531. NANSEMOND COUNTY: dry sandy woods and adjacent clearings, Kilby, *F. L. & F.*, no. 5100. Thence west to the Fall Line.

Not recorded by Kearney nor by Erlanson.

\*ASTER CONCOLOR L., forma **lasiocaulis**, f. nov., caulibus villosis, villis patentibus; foliis plus minusve villosis.—VIRGINIA: dry sandy and argillaceous pine woods back of the shore-bluff, west of Kiptopeke, October 14, 1935, *Fernald, Long & Fogg*, no. 5532 (TYPE in Gray Herb.; ISOTYPES in Herbs. Phil. Acad. and Univ. Penn.).

Typical *Aster concolor* (no. 5531), with minute canescent-puberulent or -sericeous coat, abounds on the steep outer bluff along Chesapeake Bay, west of Kiptopeke, and there shows no departure from the ordinary form. Forma *lasiocaulis* makes a pure colony back from the bluff, in woodland humus, where, at some seasons, the ground must be positively wet. The extreme development of pubescence may,



perhaps, be a response to these unusual conditions, typical *A. concolor* being a decided xerophyte.

*A. PATENS* Ait. NORTHAMPTON COUNTY: dry sandy and argillaceous pine woods back of the shore-bluff, west of Kiptopeke, *F. L. & F.*, no. 5533. NANSEMOND COUNTY: dry sandy woods and adjacent clearings, Kilby, *F. L. & F.*, no. 5101. Thence locally west to the Fall Line.

Not recorded by Kearney from southeastern Virginia.

*ERIGERON PULCHELLUS* Michx. PRINCESS ANNE COUNTY: rich woods, Great Neck, *F. & G.*, no. 4513.

Recorded by Kearney only from Suffolk.

*E. PHILADELPHICUS* L. PRINCESS ANNE COUNTY: rich woods, Cedar Island, *F. G. & L.*, no. 4707.

Not noted by Kearney.

\**E. RAMOSUS* (Walt.) BSP., var. *BEYRICHI* (Fisch. & Mey.) Trel. PRINCESS ANNE COUNTY: dry mixed woods, Little Neck, *F. & L.*, no. 4236. DINWIDDIE COUNTY: border of dry sandy woods near Carson, *F. L. & S.*, no. 5938. SOUTHAMPTON COUNTY: dry sandy oak and pine woods northeast of Cypress Bridge, *F. & L.*, no. 6425.

Quite like the Beyrich material in the Gray Herbarium. Strikingly different from common *E. ramosus* in its very reduced foliage, small heads and often violet rays. It also flowers later. Not noted by Kearney nor by Erlanson.

\**E. BONARIENSIS* L. (*E. linifolius* Willd.) NORFOLK COUNTY: sandy roadside near Gertie, *F. G. & L.*, no. 4709.

Extension north from South Carolina.

*SILPHIUM ATROPURPUREUM* Retz. PRINCESS ANNE COUNTY: rich dry woods, Great Neck, *F. G. & L.*, no. 4711.

One of the rarest of species. Dr. L. M. Perry, who is studying the genus, tells me that she has seen only three sheets: one in the Alleghenies near White Sulphur, Greenbrier County, West Virginia; one from Wytheville, Wythe County, Virginia, between the Alleghenies and the Blue Ridge; and our collection from Princess Anne County.

*HELIANTHUS ANGUSTIFOLIUS* L. ELIZABETH CITY COUNTY: bushy clearings and borders of woods west of Hampton, *F. L. & F.*, no. 5144. Frequent from Nansemond County to the Fall Line.

Not listed by Erlanson.

*BIDENS DISCOIDEA* (T. & G.) Britton. NORTHAMPTON COUNTY: swampy woods near Martin's Siding, *F. L. & F.*, no. 5558. PRINCESS ANNE COUNTY: damp peaty depressions, Cape Henry, *F. & L.*, no. 5134. Frequent westward to the Fall Line, usually on fallen logs and stumps in swamps.

Not noted by either Kearney or Erlanson.

SENECIO AUREUS L. PRINCESS ANNE COUNTY: rich woods, Great Neck, *F. & G.*, no. 4517.

Not listed by Kearney.

KRIGIA DANDELION (L.) Nutt. PRINCESS ANNE COUNTY: open clay, borders of thickets, Virginia Beach, *F. & G.*, no. 4518.

Not listed by Kearney nor by Erlanson.

#### EXPLANATION OF PLATES 440-452

PLATE 440. SPIKELETS OF *LEERSIA VIRGINICA* Willd. Sufficiently explained on pp. 385 and 386.

PLATE 441. *PANICUM DICHOTOMIFLORUM* Michx.: FIG. 1, plant,  $\times \frac{2}{3}$ , from Clinton, Maryland, September 28, 1921, *Th. Holm*.

*P. DICHOTOMIFLORUM*, var. *GENICULATUM* (Wood) Fernald: small plant,  $\times \frac{2}{3}$ , from Eastham, Massachusetts, September 24, 1913, *F. S. Collins*.

PLATE 442. *PANICUM AGROSTOIDES* Spreng.: FIG. 1, portion of panicle,  $\times 1$ , from near New York, *Gray*, *N. Am. Gram. Cyp.* no. 32; FIG. 2, spikelets,  $\times 10$ , from Bristol, Pennsylvania, August 5, 1922, *W. M. Benner*; FIG. 3, grain,  $\times 20$ , from Constantia, New York, *Fernald, Wiegand & Eames*, no. 14,147.

*P. AGROSTOIDES*, var. *RAMOSIUS* (Mohr) Fernald: FIG. 4, portion of panicle,  $\times 1$ , from Fontaine Creek, Virginia, *Fernald, Griscom & Long*, no. 6473; FIG. 5, spikelets,  $\times 10$ , from no. 6473; FIG. 6, grain,  $\times 20$ , from Factory Hill, Virginia, *Fernald & Long*, no. 6475.

*P. STIPITATUM* Nash: FIG. 7, portion of panicle,  $\times 1$ , from Centreville, Delaware, August 18, 1866, *Commons*; FIG. 8, spikelets,  $\times 10$ , from same specimen; FIG. 9, grain,  $\times 20$ , from same specimen.

PLATE 443. *PANICUM MUNDUM*, n. sp.: FIG. 1, portion of plant in autumnal state,  $\times \frac{2}{3}$ , from 4 miles northwest of Homeville, Virginia, *Fernald & Long*, no. 6499 (TYPE); FIG. 2, terminal vernal panicle,  $\times 1$ , from type-station, *Fernald & Long*, no. 6017; FIG. 3, summit of lower internode, bearded node and base of sheath,  $\times 10$ , from TYPE; FIG. 4, sheath of upper leaf, showing viscid spots,  $\times 10$ , from TYPE; FIG. 5, three spikelets,  $\times 10$ , from TYPE.

*P. CRYPTANTHUM* Ashe: FIG. 6, spikelet,  $\times 10$ , from Wilmington, North Carolina, August 28, 1905, *A. S. Hitchcock*.

*P. ACULEATUM* Hitchc. & Chase: FIG. 7, spikelet,  $\times 10$ , from Takoma Park, District of Columbia, July 27, 1904, *Agnes Chase* (ISOTYPE).

PLATE 444. *SCLERIA TRIGLOMERATA* Michx.: FIG. 1, inflorescence and characteristic short-tipped bracts,  $\times 1$ , from south of The Crater, Prince George County, Virginia, *Fernald, Long & Smart*, no. 5662; FIG. 2, summit of inner side of sheath,  $\times 10$ , from South Sudbury, Massachusetts, August 8, 1899, *W. P. Rich*; FIG. 3, rhizome and bases of culms,  $\times 1$ , from Buckroe, Virginia, *B. L. Robinson*, no. 336; FIG. 4, achenes,  $\times 5$ , from same plant as FIG. 2.

*S. MINOR* (Britton) W. Stone: FIG. 5, inflorescence, with characteristically tapering bracts,  $\times 1$ , from head of Poo Run, Prince George County, Virginia, *Fernald, Long & Smart*, no. 5665; FIG. 6, summit of inner side of sheath,  $\times 10$ , from no. 5665; FIG. 7, rhizome and bases of culms,  $\times 1$ , from no. 5665; FIG. 8, achenes,  $\times 5$ , from no. 5665.

*S. NITIDA* Willd.: FIG. 9, inflorescence, with characteristically tapering bracts,  $\times 1$ , from south of Zuni, Virginia, *Fernald, Griscom & Long*, no. 6549; FIG. 10, summit of inner side of sheath,  $\times 10$ , from no. 6549; FIG. 11, characteristic rhizome,  $\times 1$ , from no. 6549; FIG. 12, achenes,  $\times 5$ , from no. 6549.

PLATE 445. *JUNCUS GRISCOMI*, n. sp.: FIG. 1, portion of plant,  $\times \frac{2}{3}$ , from Little Neck, Virginia, *Fernald, Griscom & Long*, no. 4604 (TYPE); FIG. 2, por-

tion of inflorescence,  $\times 2$ , from the TYPE; FIG. 3, fruit,  $\times 6$ , from the TYPE; FIG. 4, seeds,  $\times 20$ , from the TYPE.

J. EFFUSUS L., var. COSTULATUS Fernald: FIG. 5, fruits,  $\times 6$ , from the TYPE, Clement Pond, Barrington, Nova Scotia, *Fernald, Long & Linder*, no. 20,654.

J. GYMNOCARPUS Coville: FIG. 6, capsule,  $\times 6$ , from an ISOTYPE, Broad Mountain, Schuylkill County, Pennsylvania, August 24, 1866, *C. E. Smith*.

PLATE 446. MALAXIS BAYARDI, n. sp.: FIG. 1, four plants,  $\times 1$ , from Kilby, Virginia, *Fernald, Long & Fogg*, no. 4851 (TYPE); FIG. 2, portion of raceme,  $\times 10$ , from the TYPE.

M. UNIFOLIA Michx.: FIG. 3, raceme,  $\times 1$ , from Cuthbert, Georgia, *Harper*, no. 1892.

PLATE 447. VARIETIES OF PARONYCHIA FASTIGIATA (Raf.) Fernald, all figs.  $\times 10$ . P. FASTIGIATA, var. TYPICA: FIG. 2, fruits from Clark County, Indiana, *Deam*, no. 7585; FIG. 3, fruits from Burlington, Massachusetts, August 26, 1900, *E. F. Williams*; FIG. 4, flowers and fruit from Waterford, New York, *House*, no. 13,354; FIG. 5, flowers and fruit from Clark County, Indiana, *Deam*, no. 7540.

Var. PALEACEA, n. var.: FIG. 6, flowers from Mt. Cuba, Delaware, July 30, 1878, *Commons* (TYPE); FIG. 7, flowers from Allegheny Mts., *Steele & Steele*, no. 26.

Var. NUTTALLI (Small) Fernald: FIG. 8, fruits from Blue Ridge Summit, Pennsylvania (type-locality), 1886, *Tatnall*.

Var. PUMILA (Wood) Fern.: FIG. 9, fruit from Allegheny Mts., *Steele & Steele*, no. 3; FIG. 10, flowers and fruits from Kate's Mt., Greenbrier County, West Virginia, September 4, 1920, *Marion S. Franklin*; FIG. 11, fruits from Three-Top Mt., Shenandoah County, Virginia, *Hunnevell & Griscom*, no. 15,169.

P. CANADENSIS (L.) Wood: FIG. 1, fruit from Danvers, Massachusetts, August 14, 1887, *J. H. Sears*.

PLATE 448. CASSIA NICTITANS L.: FIG. 4, surface of legume,  $\times 4$ , from Cape Henry, Virginia, *Fernald & Griscom*, no. 2830.

C. NICTITANS L., var. HEBECARPA, n. var.: FIG. 1, plant,  $\times 1$ , from TYPE-COLLECTION, Old Town Neck, Northampton County, Virginia, *Fernald, Long & Fogg*, no. 5316; FIG. 2, leaf,  $\times 4$ , from the TYPE; FIG. 3, surface of legume,  $\times 4$ , from the TYPE.

C. NICTITANS L., var. LEIOCARPA, n. var.: FIG. 5, surface of legume,  $\times 4$ , from the TYPE, Pine Mountain, Bell County, Kentucky, *Kearney*, no. 496.

PLATE 449. AMMANIA KOEHNEI Britton: FIGS. 1 and 2, plants,  $\times \frac{1}{2}$ , from Hackensack Meadow, New Jersey, *Torrey* (TYPE in Herb. N. Y. Bot. Gard.); FIG. 3, bases of upper leaves with axillary flowers (one petal showing),  $\times 2$ , from Jacksonville, Florida, *A. H. Curtiss*, no. 5133.

A. KOEHNEI, var. EXAURICULATA, n. var.: FIG. 4, small plant,  $\times \frac{1}{2}$ , from North Landing River, Virginia, *Fernald, Long & Fogg*, no. 4954 (TYPE); FIG. 5, bases of upper leaves and axillary flowers,  $\times 2$ , from the TYPE.

PLATE 450. VERBENA URTICIFOLIA L.: FIG. 1, portion of characteristic fruiting inflorescence,  $\times 1$ , from West Cambridge, Massachusetts, September 29, 1894, *B. L. Robinson*; FIG. 2, lower surface of leaf,  $\times 10$ , from Lancaster, Pennsylvania, August 29, 1900, *Heller*; FIG. 3, fruiting calyces, showing the bracts,  $\times 10$ , from Dedham, Massachusetts, August 22, 1897, *E. F. Williams*; FIG. 4, ripe fruit,  $\times 10$ , from Belmont, Massachusetts, September 27, 1891, *Walter Deane*.

V. URTICIFOLIA, var. LEIOCARPA Perry & Fernald, n. var.: FIG. 5, portion of fruiting inflorescence,  $\times 1$ , from Virginia Beach, Virginia, *Fernald, Long & Fogg*, no. 5013 (TYPE); FIG. 6, lower surface of leaf,  $\times 10$ , from the TYPE; FIG. 7, fruiting calyces and bracts,  $\times 10$ , from the TYPE; FIG. 8, ripe fruit,  $\times 10$ , from the TYPE.

PLATE 451. ASTER SPECTABILIS Ait., var. SUFFULTUS, n. var. TYPE-SPECIMEN,  $\times \frac{1}{2}$ , from Hampton, Virginia, *Fernald, Long & Fogg*, no. 5096.

PLATE 452. INVOLUCRES OF ASTER,  $\times 4$ . FIG. 1, A. SPECTABILIS Ait., var.

SUFFULTUS, n. var., from TYPE SPECIMEN. FIG. 2, *A. SPECTABILIS* Ait., from Orleans, Massachusetts, *Fernald*, no. 694; FIG. 3, *A. SPECTABILIS* from Brookline, Massachusetts, September 12, 1889, *Faxon*. FIG. 4, *A. CURTISII* Torr. & Gray, from Haywood County, North Carolina, September, 1897, *E. E. Magee*.

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## SOME NOTEWORTHY PLANTS OF YORK COUNTY, MAINE<sup>1</sup>

ANNE E. PERKINS

My field excursions during the summer of 1935 resulted in the collection of several species believed to be new to the flora of Maine, and observations on a number of others which are rare or otherwise noteworthy.

Specimens of some of these have been given to the herbarium of the Portland Society of Natural History, some to the Gray Herbarium, and all to the herbarium of Cornell University. Specimens sent to the Gray Herbarium, have been verified by Dr. M. L. Fernald, and all sent to Cornell have been verified by Mr. S. H. Burnham.

*CHAMAECYPARIS THYOIDES* (L.) BSP. The status of this plant in Maine for many years rested upon the published report of its occurrence at Kittery and York, by Dr. Goodale 1869, *Proceedings Portland Society of Natural History*, I (ii) 129, no herbarium specimens being known. August 10, 1916, four members of the Josselyn Botanical Society, Dr. M. L. Fernald, Mr. Bayard Long, Mr. Edward B. Chamberlain and Arthur H. Norton, with careful directions furnished by Mr. Winfield E. Hanson of Kennebunkport, "visited the remains of a once large stand"<sup>2</sup> of the tree in Lyman, and secured good specimens. During the summer of 1935 I visited another sizable stand in Sanford, and again secured good specimens.

*ECHINODORUS TENELLUS* (Martius) Buchenau. I collected this species July 18, 1935 at the estuary of Salmon Falls River, South Berwick. The specimens were sent to the herbarium of Cornell University. It is new to the flora of Maine, its nearest known approach being eastern Massachusetts. Though a plant with a wide range, it has been characterized by Dr. Fernald as one of "dramatic isolation" in respect to its known stations.

*SCIRPUS LINEATUS* Michaux. This species, also new to Maine, I collected at Tatnic, South Berwick, August 5, 1935. Specimens were sent to Cornell, and verified by Mr. S. H. Burnham.

*LEMNA MINOR* Linn. Bauneg Beg Pond, North Berwick. Though

<sup>1</sup> My previous paper, "Notes on Some Rare Plants of York County, Maine" in *RHODORA*, 37: 415-416, 1935, enumerates nineteen species.

<sup>2</sup> 1920, *Bull. Josselyn Bot. Soc.* No. 6, 7.



frequent in southwestern Maine, few if any stations have been recorded in print.

*XYRIS MONTANA* Ries. Common on treacherous peat beds in a boggy arm of Sand Pond, Sanford, August, 1935.

*XYRIS SMALLIANA* Nash. Common with the last on the slightly emerged oozy peat beds adjacent to Sand Pond, Sanford in August, 1935. This is new to Maine. Specimens are now in all the herbaria named above, and the herbarium of the University of Pennsylvania.

*SAMOLUS FLORIBUNDUS* HBK. Common on the estuary, Salmon Falls River at South Berwick.

*BARTONIA VIRGINICA* (L.) BSP. Abundant and lusty near Hooper's Mills, South Berwick, August, 1935.

*CHAENORRHINUM MINUS* (L.) Lange. Found along railroad tracks, North Berwick, September 6, 1935.

*PENSTEMON PALLIDUS* Small. Abundant by a roadside in Eliot in June, 1935.

*UTRICULARIA PURPUREA* Walt. This plant, which seems to be rare in Maine, I found in a small colony in Bauneg Beg Pond, North Berwick in August, 1935.

*ASTER SUBULATUS* Michx. This Aster I found to be quite common at the estuary of Salmon Falls River, South Berwick in August and September, 1935. Though this inconspicuous plant has been cited for the Maine flora at least since the first edition of Gray's Manual (1848, p. 205), and continually carried forward in the citations of its range, it seems that there is little if any material in collections to substantiate the record. I have furnished specimens to the several herbaria mentioned above.

BERWICK, MAINE.

## NORTHEASTWARD EXTENSIONS IN THE MAINE FLORA

GEORGE B. ROSSBACH

*CHAMAECYPARIS THYOIDES* (L.) BSP. was collected June 16, 1930, from a quaking sphagnum bog, Knights Bog, Northport, Waldo Co. Trees are stunted, and scattered or clumped over portions of the open bog. On August 17, 1931 the same tree was collected from a very wet, cold, wooded bog called Cedar Swamp, in Appleton, Knox Co. Here the frequent trees are vigorous, straight, evenly tapering, attaining a diameter at the base of from 4-10 inches. In both localities fruit is present.

Heretofore, *C. THYOIDES* was known to extend locally northeastward to Alfred, York Co., Maine (August 10, 1916, *Fernald & Long*, no. 12362), and to Lyman, York Co. (August 10, 1916, *Fernald & Long*, no. 12363 and August 11, 1916, R. C. Bean, no. 16974), and north to Bradford, Merrimack Co., New Hampshire (October 4, 1928, *Fernald & Svenson*, no. 730). Therefore, Waldo and Knox

Counties, Maine are much farther northeast than the previously known range.

CYPERUS FILICINUS Vahl has been known along the coast locally to Sagadahoc Co., Maine, where it was collected at Phippsburg, August 23, 1909, by *M. L. Fernald*, no. 1379, and on September 14, 1907, by *K. Furbish*, and at Woolwich, September 15, 1916, by *Fernald & Long*, no. 12758. On August 29, 1931, specimens of this plant were collected from mud and gravel, brackish, tidal shore, Bald Hill Cove, Penobscot River, Winterport, Waldo Co.

SCIRPUS CYPERINUS (L.) Kunth. var. ANDREWSII Fernald, with its elongate, cylindric, and not ovoid, spikelets, was taken from a swamp bordering Coleman Pond, Lincolnville, Waldo Co., on September 11, 1931. Originally, this variety was supposed to be confined to areas in Connecticut, but it was found by *Prof. M. L. Fernald* at Glacialis, Cambridge, Massachusetts, and later represented as far northeast as Bowdoinham, Sagadahoc Co., Maine, September 14 and 19, 1916, *Fernald & Long*, no. 12870.

CAREX PLATYPHYLLA Carey, known from rich woods locally to York Co., Maine, and northern New Hampshire, is represented from farther north or east only very sparsely: Mt. Royal, Quebec, June, 1914, *Bro. Victorin*, no. 728; and, "Limestone ledges in woods," Phillipsburg, Missisquoi Co., Quebec, August 10-11, 1923, *C. H. Knowlton*. It is rather odd to find this plant growing on the deciduous-wooded, rocky and somewhat limy base of Mt. Megunticook, Camden, Knox Co., Maine, June 24, 1930.

Very near CAREX PLATYPHYLLA, but on the exposed, limy talus, was collected, on June 24, 1930, GERANIUM CAROLINIANUM L. var. CONFERTIFLORUM Fernald, where it grows in company with CARDAMINE PARVIFLORA L., ARABIS DRUMMONDI Gray, CORYDALIS SEMPERVIRENS (L.) Pers., and GERANIUM ROBERTIANUM L. GERANIUM CAROLINIANUM var. CONFERTIFLORUM is represented from ledges at Presumpscot Gorge, Falmouth, Cumberland Co., Maine, July 11, 1907, *R. C. Bean*, no. 958, but as far as I can ascertain, the above station and mine, much farther east, in Knox Co., are the only two stations known beyond the local spots in Essex and Middlesex Counties, Massachusetts, and Carroll Co., New Hampshire, which border the general range northeastward.

ERIGERON PULCHELLUS Michx. was collected from an old orchard, Pitcher Pond, Lincolnville, Waldo Co., Maine, June 15, 1935. It is very rare and local in the region. At this locality is one patch, which is slowly becoming larger over the damp, grassy hillside. Not far from Lincolnville, "in dry open woods" of Rockport, Knox Co., *Prof. M. L. Fernald* collected it on August 13, 1913, no. 10614. The next station southwestward, Vassalboro, Kennebec Co., July 6, 1916, *M. L. Fernald*, no. 14749, is, again, widely isolated.—CAMBRIDGE, MASSACHUSETTS.

A MEMORIAL VOLUME TO CYRUS GUERNSEY PRINGLE.—Some of the older members of the New England Botanical Club may remember Dr. Pringle—one of the best collectors of all time, a man of uncompromising uprightness, an earnest devotee of science in his field. He is said to have phrased tersely the ultimate justification of all work in pure science. Once, the story goes, a farmer who had found him gathering an insignificant-looking weed, asked, with some contempt, what that was good for. "It's good" said Pringle, "to cure ignorance."

Those of us who did know him and his attitude toward his work will feel, I think, that he would have liked and would have chosen just such a plain, useful and straightforward memorial volume as that which the University of Vermont has lately issued. The book, compiled by Mrs. Helen Burns Davis, contains a brief biographical introduction; transcripts of all passages in Pringle's diaries relating to his botanical work in Mexico during the years 1885-1909; reprints of some of his own accounts of his journeys, originally published in "Garden and Forest"; two lists of all his Mexican collections, one systematic and one numerical, both giving determinations of his specimens and recording their presence or absence in the three herbaria which have his first sets—his own at the University of Vermont, the Gray and Farlow Herbaria at Harvard and the United States National Herbarium; and adequate indices. It is now possible to construct continuous and detailed itineraries of his journeys, to get various pieces of collateral information about his specimens—matter of much interest and often of importance to the taxonomist—and readily to locate any particular collection-number desired. And the diaries afford glimpses of Pringle's personality and of his methods of work which are also to be welcomed.

Mrs. Davis has done her work faithfully and to all appearances well—just how well, only use of the book can fully show. It would have been more accurate to specify the Farlow Herbarium as the place of deposit at Harvard of Pringle's lower cryptogams, instead of assigning everything to the Gray. And one could wish that his early journeys to the Pacific states in 1880-1884 and those to Cuba in his last active years might have been included. Perhaps the data in regard to them does not exist. In any case, Pringle's name will always be chiefly associated with the exploration of the Mexican flora in which he stands so high; and of that, we have the story here.<sup>1</sup>—C. A. W.

*Volume 38, no. 455, including pages 373-408 and plates 439-446, was issued 7 November, 1936.*

<sup>1</sup> Davis, Helen Burns. *Life and Work of Cyrus Guernsey Pringle*. Burlington, Vermont. 1936. 756 pp., 2 portr. Paper. For sale at the Pringle Herbarium, Williams Science Hall, University of Vermont, Burlington, Vermont; price \$1.50.

## ERRATA

- Page 4, line 25; for *exercized* read *exercised*.  
Page 7, line 29; for *This group of plants* read *Plants of this group*.  
Page 8, line 13; for *America* read *American*.  
Page 12, line 25; for *trichophullus* read *trichophyllus*.  
Page 18, line 34; for *culare* read *cularis*.  
Page 22, line 34; for *trichophyllon* read *trichophyllos*.  
Page 24, line 8; for *circinnatus* read *circinatus*.  
Page 24, line 34; for *trichophyllus* read *trichophyllos*.  
Page 25, line 14; for *trichophyllus* read *trichophyllos*.  
Page 32, line 32; for *Cram's* read *Crane*.  
Page 35, line 13; for  $\beta$ . *tripartiti* read *B. tripartiti*.  
Page 36, line 22; for *hispidulo* read *hispidula*.  
Page 43, line 35; for *Dare* read *Dane*.  
Page 47, line 38; for *Crams* read *Crane*.  
Page 73, line 37; for *S. calycinus* read *S. calycina*.  
Page 96, line 25; for *rima* read *rimum*.  
Page 146, line 16; for (1928) read (1924).  
Page 146, line 33; for *COLLECTEANA* read *COLLECTANEA*.  
Page 179, line 18; for *glauca* read *glaucum*.  
Page 189, line 41; for *Meibomia nudiflora foliolata* read *Meibomia nudiflora*, forma *foliolata*.  
Page 305, Fig. 14, swing map one turn to the right.  
Page 376, line 31; for *virginiana* read *virginica*.  
Page 377, line 36; for *Xanthoxylum* read *Zanthoxylum*.  
Page 381, line 6; for *scoparius* read *virginicus*.  
Page 381, line 10; for *Xanthoxylum* read *Zanthoxylum*.  
Page 381, line 30; for *Point* read *Neck*.  
Page 398, line 18; for *ovoid-* read *ovoid*.  
Page 407, line 20; for *Standfieldii* read *Stanfieldii*.



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